MAN IN INDIA

VOL. 39 | JAN.-MARCH 1959 | NO. 1

DERMATOGLYPHICS OF THE PAHIRAS OF THE DALMA HILLS

MANISH RANJAN CHAKRAVARTTI

(Received on 10 December 1958)

Introduction

THE Pahiras are a Veddid people (Sarkar 1954) who inhabit the foot-hills and slopes of the flat-topped hills of the Dalma range. They possess dolichocephalic head, mesorrhine nose and short stature (Ray 1958). They now speak a corrupt form of Bengali dialect. They numbered 444 individuals (males—284, females—160) according to the 1951 Census. Their population is gradually declining as will be evident from the studies of Ray (1954). Their main occupation is the collection of firewood and timber from the interior of the Dalma Hills. Women are expert in making broomsticks out of bamboo splits which they sell in the local market. They do not own land except a few plots of kitchen garden.

The Data

The dermatoglyphic data were collected from the village of Khokro in October 1956. They comprise 54 individuals, 33 males and 21 females. Both finger and palm prints were collected.

Dr. Manish Ranjan Chakravartti is Lecturer in Anthropology at the Bangabasi College, Calcutta. Working on the dermatoglyphics of various aboriginal peoples of India, he obtained the D. Phil. (Science) degree of the University of Calcutta last year.

The data belonged to unrelated individuals. In this connection, the small size of the Pahira population should be noted.

PAPILLARY PATTERNS

The finger-prints of the two sexes are given separately in Tables 1a and 1b.

TABLE 1a. DISTRIBUTION OF PAPILLARY PATTERNS

Male

	Lt.					Rt.					
Patterns	I	II	III	IV	V	I	II	III	IV	V	Total
Whorl	20	21	13	25	15	24	18	7	23	14	184
%	6 08	6 39	3.96	7.59	4.56	7.30	5.48	2.15	8.21	4.25	55.95
Loop Radial	1	6	1	—	—	—	6	2	—	—	16
%	0.30	1.82	0.30	—	—	—	1.82	0.61	—	—	4.85
Loop Ulnar	12	4	18	7	16	8	6	23	5	18	117
%	3.65	1.21	5.48	2.13	4.87	2 43	1.82	6.99	1.51	5.48	35.57
Arch.	—	2	1	1	2	1	2	1	1	1	12
%		0.61	0.30	0 30	0.61	0.30	0.61	0 30	0.30	0.30	3 63
Total	33	33	33	33	33	33	32	33	33	33	329

TABLE 1b.

Female

	Lt.					Rt.					
Patterns	I	II	III	IV	V	I	II	III	IV	V	Total
Whorl	15	5	7	14	7	14	8	7	9	5	91
%	7.15	2.38	3.33	6.67	3.33	6 67	3.80	3.53	4.28	2.38	43 32
Loop Radial	5	—	—	—	—	—	—	1	—	1	7
%	2.38	—	—	—	—	—	—	0 48	—	0 48	3.34
Loop Ulnar	5	11	14	7	14	6	12	13	12	13	109
%	2.38	5.24	6.67	3.33	6.67	2.86	5.71	6.19	5.71	7.14	51.90
Arch	1	—	—	—	—	1	1	—	—	—	3
%	0.48	—	—	—	—	0.48	0.48	—	—	—	1.44
Total	21	21	21	21	21	21	21	21	21	21	210

It will be seen from the above tables that males possess more whorls (53.95%) and radial loops (4.85%) than females, who show them in 45.33% and 3.34% respectively. Arches also occur more in males (3.65%) than in females (1.44%).

Whorls and loops occur in all digits of the two sexes. There is however a slight sexual variation which will be apparent from Table 2.

TABLE 2. COMPARATIVE OCCURRENCE OF WHORLS AND LOOPS (R+U) IN DIFFERENT DIGITS

	Male				Female			
Digit	Lt.	Rt.	Rt.+Lt. Combined	W–L Ratio	Lt.	Rt.	Rt.+Lt. Combined	W–L Ratio
I	W>L	W>L	W>L	1 : 2.09	W>L	W>L	W>L	1 : 2.64
II	W>L	W>L	W>L	1 : 1.78	L>W	L>W	L>W	1 : 2.16
III	L>W	L>W	L>W	1 : 2.20	L>W	L>W	L>W	1 : 2.00
IV	W>L	W>L	W>L	1 : 4.34	W>L	L>W	W>L	1 : 1.21
V	L>W	L>W	L>W	1 : 1.17	L>W	L>W	L>W	1 : 2.50

Table 2 shows that the general order of the comparative occurrence of whorls and loops varies to some extent in the individual digits. W>L occurs in I, II and IV digits of both the hands of males, while in other digits the order is reversed (L>W). Among females the male order of W>L is seen only in I and IV digits of the left hand and I of the right hand. In females therefore the prevailing order appears to be L>W, contrary to that of W>L in males. The combined whorl-loop ratio for fingers I, II and IV in males varies between 1 : 1.78 and 1 : 4.34 with a mean of 2.74 while loop-whorl ratio for fingers III and V varies between 1 : 1.17 and 1 : 2.20 with a mean of 1.68.

The combined whorl-loop ratio for fingers I and IV in females varies between 1 : 1.21 and 1 : 2.64 with a mean of 1.92,

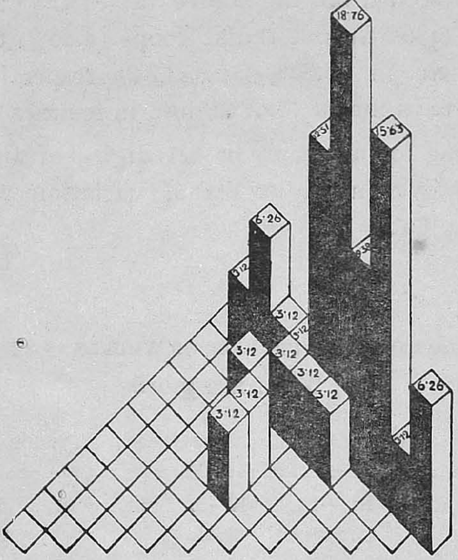

FIG. 1. PAHIRA ♂

Bimanuar

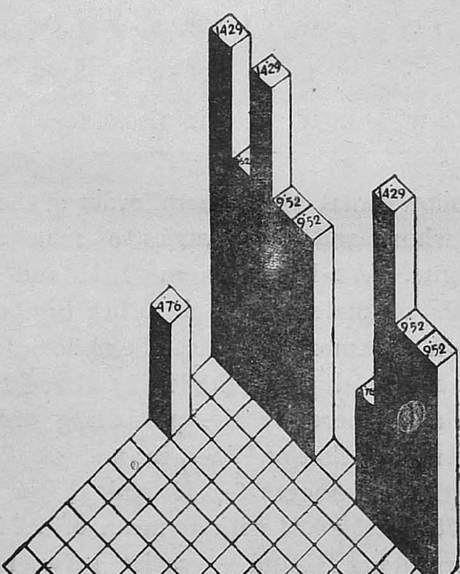

FIG. 2. PAHIRA ♀

Bimanuar

while the loop-whorl ratio for fingers II, III, and V varies between 1 : 2.00 and 1 : 2.50 with a mean of 2.22. Radial loops occur in I, II and III digits of males, while in females they are found more on the II digit than elsewhere. Arches occur in all the digits of males while in females they are seen only in I and II digits.

TABLE 3. PERCENTAGE OF PAPILLARY PATTERNS AND THE INDICES DERIVED OUT OF THEM

	Whorl	Radial Loop	Ulnar Loop	Total Loop	Arch	Pattern intensity Index	Arch-whorl Index	Whorl-loop Index
Male	55.95	4.85	35.57	40.42	3.63	15.23	6.49	138.42
Female	43.32	3.34	51 90	55.24	1.44	14.18	3.32	78.42

Table 3 shows the frequency of the different papillary patterns in the two sexes along with the different indices derived from them. The males possess a slightly higher pattern intensity index (15.23) than females (14.18). The male arch-whorl index (6.49) also shows a higher value than 5.32 of females. The whorl-loop index is 138.42 in males as against 78.48 of females. The males, therefore, appear to show a higher value of the indices than females and this is due to the higher frequency of whorls and arches in males than females.

Heinrich Poll (Cummins and Midlo 1943) showed that the indices are not adequate to show the trifold pattern (arch, loop and whorl) of the finger-prints. He proposed the construction of the bimanuars in which the three patterns could be shown in a triangular pyramid. Figures 1 and 2 show the two bimanuars for the two sexes. They show the highest peak in males at 6W4L (18.76%), while the females show three peaks at 8W2L, 2W8L and 10L, each with a percentage of 14.29.

SYMMETRY AND ASYMMETRY IN FINGER-PRINTS

Sexual difference is also apparent in the frequency of monomorphic hands. The distribution of monomorphic hands among the Pahiras is given in Table 4.

TABLE 4. DISTRIBUTION OF MONOMORPHIC HANDS

	Male			Female		
Pattern	Lt.	Rt.	Total	Lt.	Rt.	Total
Whorl	6	2	8	5	3	6
%	18.18	6.06	12.12	14.28	14.28	14.28
Loop Ulnar	2	1	3	1	4	5
%	6.06	3.03	4.55	4.76	19 04	11.90
			16.67			26.18

Monomorphic hands thus occur in 16.67% in males and 26.18% in females, which is probably indicative of a greater proportion of symmetry in females than males. It is also borne out by the frequency of total symmetry and asymmetry as given in Table 5 below.

TABLE 5. TOTAL SYMMETRY AND ASYMMETRY

	Male	Female
Symmetry	97	84
%	59.14	80.00
Asymmetry	67	21
%	40.86	20.06

The female Pahiras show a higher frequency of symmetry (80.00%) than males (59.14%) and correspondingly the frequency of asymmetry is more than twice higher in males (40·86%) than females (20·00%).

Poll (1938) demonstrated that the patterns on digits II, III and V are similar in the two corresponding right and left hands, but digits I and IV of each hand are more closely related to one another in the finger-print pattern than the right thumb (I) and the left thumb (I) or the left annular (IV) and the right annular (IV). Poll termed it Pair Group Rule. He also devised a method[1] by which this relationship of the different digits can be readily analysed.

When Poll's formulæ are applied to the Pahira sample, we get the following result :

Male	Female
$\Sigma P = -0.73$	$\Sigma P = 1.91$
$\Sigma G = 1.42$	$\Sigma G = -1.76$

So the value of

Male	Female
$D = \Sigma P - \Sigma G$	$D = \Sigma P - \Sigma G$
$= -0.69$ or void	$= 0.15$ or valid
$\Sigma P > \Sigma G$	$\Sigma P > \Sigma G$

Gene Frequency Analysis of Finger-prints

The genetic analysis of finger-prints is the result of exhaustive genetic studies by Kristine Bonnevie (1929, 1931). She came to the conclusion that the pattern building on the finger tips is conditioned by the nature of the vault of the embryonal finger tips and the vault of the epidermis is dependent upon fixed factors for the building up of pads or cushions. According to her, the variation in epidermal thickness determines the corresponding variation in the quantitative values of the papillary patterns. The thinner the embryonal epidermis,

[1] The following formulae were proposed by Poll (1938). In his Pair Group Rule P stands for pairs I and IV, while G stands for groups II, III and V. As such, the summations ΣP and ΣG are calculated as follows :—

$$\Sigma P = \sqrt{(Al\ IV - Ar\ IV)^2 + (Wr\ IV - Wl\ IV)^2} - \sqrt{(Al\ I - Ar\ I)^2 + (Wr\ I - Wl\ I)^2}$$

$$\Sigma G = \sqrt{(Al\ I - Al\ IV)^2 + (Wl\ IV - Wl\ I)^2} - \sqrt{(Ar\ I - Ar\ IV)^2 + (Wr\ IV - Wr\ I)^2}$$

Poll assumed that the Pair Group Rule is lacking when $\Sigma P = \Sigma G$ and the difference between ΣP and ΣG was expressed by D, the difference being computed without regard to their positive and negative signs. The rule is valid when $\Sigma P > \Sigma G$ and void when $\Sigma P < \Sigma G$.

the greater would be the curvature of the finger tip, and also therewith the number of papillary lines between the triradius and the centre of the pattern.

Bonnevie proposed the following :

1. A pad or cushion-building factor V is responsible for the general epidermal thickness of the embryonal finger tip.

2. A factor R for Radial cushioning for the radial digits (I, II and III) of the embryonal hand.

3. A factor U for Ulnar cushioning for the ulnar digits (IV and V) of the embryonal hand.

As a result of extensive studies of family material, Bonnevie found that the above three factors can occur unrelated to one another and the presence of the factor is dominant over its absence. Her method of analysis is as follows :

1. Factor V

(a) Ridge counts of 21 or more in a finger of a hand shows the complete absence of the general cushion-building factor V and is denoted as homozygous Vv.

(b) Ridge counts between 15 and 21 is denoted by Vv,—which means that the general cushion-building factor is heterozygous.

(c) Ridge counts between 0 and 15 is denoted as VV, which means that the general cushion-building factor is homozygous.

2 and 3. Factors R and U

(a) If in all fingers of the two hands the difference in the highest number of ridge-counts is between 0 and 4 then the radial and the ulnar cushioning factors are lacking and they are denoted as rr and uu respectively.

(b) If, on the other hand, the difference between the highest ridge-counts of two fingers of the same hand, as also between the first three radial fingers and the last two ulnar fingers is between 5 and 10, then the radial and the ulnar cushion-building factors are heterozygotic and are denoted as Rr and Uu respectively.

(c) If the difference between the highest ridge counts of two fingers of the same hand is greater than 10, then the

radial and the ulnar cushion-building factors are dominant and are denoted as RR and UU respectively.

In analysing the gene frequencies, the papillary ridges of each finger were first of all counted under a magnifying lamp (Geipel 1950). Then Bonnevie's formulae were applied to these ridge counts. The quantitative values for the Pahira males and females are 11.9 and 10.3 respectively (Fig. 3). The frequency of the different genes is given below in Table 6.

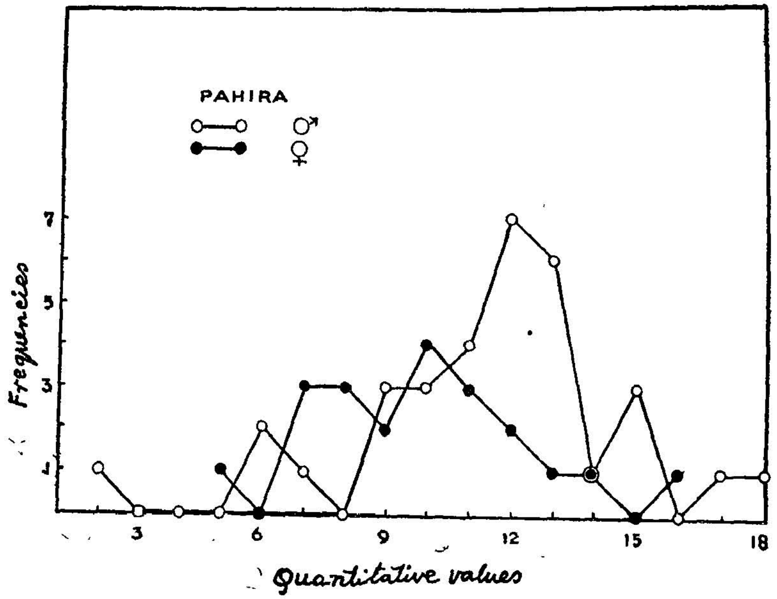

TABLE 6. FREQUENCY OF ZYGOTES V, R AND U OF PAHIRAS

	vv	Vv	VV	rr	Rr	RR	uu	Uu	UU
Pahira (Male)	52.35	43.65	4.00	5.50	64.95	29.55	16.45	70.90	20 65
Pahira (Female)	43.53	49.90	6.57	4.26	56.50	39.24	15.10	64.90	20.00

From the above table it appears that thin epidermis (vv) among the Pahiras occurs in 52.35% and 43·53% in males and females respectively. The frequency of heterozygote (Vv) is higher in the females (49·90%) than in males (43.65%). The homozygote (vv) is 4.00% in males while it is 6·57% in females.

Radial and ulnar cushionings (Rr, Uu) appear to be heterozygotic in the highest percentage in both sexes, they

being 64.95% and 70.90% respectively in males and 56.50% and 64.90% respectively in females. The homozygote radial cushioning (RR) occurs in 39.24% in females and in 29.55% in males. The homozygote ulnar (UU) is also higher in females (20.00%) than in males (12.65%). The recessive genes rr and uu are slightly higher in males, the percentages being 5.50 and 16.45 respectively in comparison with 4.26% and 15.10% respectively in females.

Sexual difference is thus evident in the gene frequency as well. It is also evident that thin epidermis (vv) appears to be a characteristic of Pahira males, while among females the epidermal thickness appears to be intermediate (Vv) in nature. This is also borne out by the higher percentage of thick epidermis (VV) in females than in males. The ulnar heterozygote Uu and the recessive uu appear to be higher than the corresponding radial genes while the homozygote UU is nearly twice lesser than the gene RR.

PALM PRINTS

(a) Main Lines

A study of the palmar prints of the Pahiras shows the following main line formulae in the two sexes.

TABLE 7a. MAIN PALM LINE FORMULAE (MALE)

%	Abs. No.	Lt. Hand	(Lt+Rt)	Lt. Hand	Abs. No.	%
12.12	4		7.5″.5″.5′		4	12.12
6.06	2		(7)11.9·7.5′		2	6.06
27.28	9		9.7.5″.4		7	21.21
3.03	1		9.7.5″.4		1	30.3
3.03	1		11.9.7.4		1	3.03
9.09	3		11.9 7.5′		7	21.21
3.03	1		11.x.7,5′		1	3.03
12.12	4		11.o.7.5′		6	18.19
3.03	1	7.9.5″.5′		11.9.o.5′	1	3.03
3.03	1	11.x.7.5″		11.o.9.5′	1	3.03
6.06	2	11.7.7.5′		11.x.x.5″	1	3 03
3.03	1	11.o 5″.5′		o.o.5′ .5″	1	3.04
3.03	1	(7)10,9.7.5′				
3.03	1	(7)9.7.5″.5′				
3 03	1	9.o.5″.5′				

TABLE 7b. MAIN PALM LINE FORMULAE (FEMALE)

%	Abs. No.	Lt. Hand	(Lt+Rt)	Rt. Hand	Abs. No.	%
33.33	7		9.7.5″.5′		5	23.81
9.53	2		9.o.5″.5″		2	9.53
4.76	1		11.x.7.5′		1	4.76
4.76	1		11.0.7.5′		3	14.29
4.76	1		11.9.7.5′		6	28.57
14.29	3		7.5″.5″5.′		1	4.76
4.76	1		(7)11.o.7.5′		1	4.76
4.76	1	9.9.5″.5′		11.7.7.4	1	4.76
9.53	2	11.7.7.5′		11.10.7.5′	1	4 76
4.76	1	0.0.5″.5′				
4.76	1	(7)9.7.5″.5′				

The frequencies of the different main line formulae in the two hands of the two sexes are given in Table 8.

TABLE 8. FREQUENCY OF MAIN LINE FORMULAE

Formula	Lt.	Rt.	Total
		Male	
11 9.7—	6	10	16
%	18.18	30.30	24.24
9.7.5—	11	8	19
%	33.33	24.24	28.78
7.5.5—	4	4	8
%	12.12	12.12	12.12
11.0.7—	4	6	10
%	12.12	18.18	15.15
		Female	
11.9.7—	1	6	7
%	4.76	28.57	16.67
9.7.5—	8	5	13
%	38.09	23.81	30 95
7.5.5—	3	1	4
%	14.29	4.76	9.53
11.0.7—	2	4	6
%	9.53	19.04	14.29
9.0.5—	2	2	4
%	9.53	9.53	9.53

The main line formula 9.7.5.— occurs in the highest percentage in both sexes. In females it is found in 30.95% while in males it is 28.78%. The formula 11.9.7.— occurs in the next highest frequency in both sexes ; 24.24% in males and 16.67% in females. The rest of the males fall under the formulae 11.0.7.— and 7.5.5.— in 15.15% and 12.12% respectively ; while in females, besides the above two formulae, a third formula 9.0.5.— occurs in 9.53%.

TABLE 9. FREQUENCY OF ENDINGS OF THE FOUR MAIN LINES

ENDINGS OF LINE D

	Male			Female		
Endings	Lt.	Rt.	Total	Lt.	Rt.	Total
7	5	4	9	3	1	4
%	15.15	12.12	13.63	14.29	4.76	9.53
9	12	8	20	11	7	18
%	36.36	24.24	30.30	52.38	33.33	42.85
10	1	—	1	—	—	—
%	3.03	—	1.52	—	—	—
11	15	20	35	6	13	13
%	45.46	60.61	53.03	28.57	61.91	45.24
0	—	1	1	1	—	1
%	—	3.03	1.52	4.76	—	2.38

ENDINGS OF LINE C

	Male			Female		
Endings	Lt.	Rt.	Total	Lt.	Rt.	Total
5	4	4	8	3	1	4
%	12.12	12.12	12.12	14.29	4.76	9.53
7	13	8	21	10	6	16
%	39.40	24.24	31.82	47.62	28.57	38.09
9	3	11	19	2	6	8
%	24.24	33.34	28.79	9.52	28.57	19.05
10	—	—	—	—	1	1
%	—	—	—	—	4.76	2.38
X	2	2	4	1	1	2
%	6.06	6.06	6.06	4 76	4.76	4.76
0	6	8	14	5	6	11
%	18.18	24.24	21.21	23.81	28.57	26.19

ENDINGS OF LINE B

	Male			Female		
Endings	Lt.	Rt.	Total	Lt.	Rt.	Total
5	18	13	31	15	8	25
%	54.54	39.40	49.96	71.43	38.09	54.76
7	15	17	32	6	13	19
%	45.46	51.51	48.48	28.57	61.91	45.24
9	—	1	1	—	—	—
%	—	3.03	1.52	—	—	—
X	—	1	1	—	—	—
%	—	3.03	1.52	—	—	—
0	—	1	1	—	—	—
%	—	3.03	1.52	—	—	—

ENDINGS OF LINE A

	Male			Female		
Endings	Lt.	Rt.	Total	Lt.	Rt.	Total
4	2	2	4	—	1	1
%	6.06	6.06	6.06	—	4.76	2.38
5	30	30	60	21	20	41
%	90.91	90.91	90.91	100.00	95.24	97.62
5	1	1	2	—	—	—
%	3.03	3.03	3.03	—	—	—

The frequency of the different endings of the four main lines D, C, B, and A of 66 male Pahira palms is shown in Table 9. Line D ends in 11 in 53.03% and in 9 in 30.30%. It is absent in 1.52% of the males. Line C ends in 7 in 31.82%, in 9 in 28.79%. It is absent (0) in 21.21% and abortive (X) in 6.06%. Line B ends in 7 in 48.48% and in 5 in 46.96% while line A ends in 5′ in 90.91% only. There are only four instances (Lt-2 and Rt-2) of the line A ending in 5 (6.06%).

The same is seen in females (Table 9) in the following manner. Line D ends in 11 in the highest frequency of 45.24% followed by that in 9 in 42.85%. It is absent in 2.38% of the females. Line C ends in 7 in 38.09%. It is absent in 26.19%

and abortive in 4.76% of the females. Line B ends in 5″ in 54.76% and in 7 in 45.24%, while line A ends in 5′ in 97.62% only. There is only one instance (2.56%) of the line A ending in 4 of the right hand.

The two sexes thus appear to differ more in the absence of the line C, which is found in a higher percentage among females (26.19) than among males (21.21). Its abortive form (X) is, however, met with more among males (9.96%) than among females (4.76%).

(b) Patterns on Hypothenar Area

In the Hypothenar area the females show eight patterns in comparison to seven in males.

TABLE 10. PATTERNS ON HYPOTHENAR AREA

Male

Pattern	Lt.	%	Rt.	%	Total	%
0	19	57.58	22	66.67	41	62.12
L^r	3	9.09	2	6.06	5	7.58
A^u	0	0	1	3.03	1	1.52
L^r/A^c	0	0	1	3.03	1	1.52
A^c	4	12.12	3	9.09	7	10.59
L^u	3	9.09	2	6.06	5	7.58
M	4	12.12	4	6,06	9	9.09

PATTERNS ON HYPOTHENAR AREA

Female

Pattern	Lt.	%	Rt.	%	Total	%
0	11	52.38	10	47.62	21	50.00
L^r	5	23.82	6	28.58	11	26.20
A^u	0	0	2	9.52	2	4.76
L^u/L^r	2	9.52	0	0	2	4.76
L^u/L^u	1	4.76	1	4.76	2	4.76
A^r/A^c	1	4.76	0	0	1	2.38
A^c/S	1	4.76	0	0	1	2.38
M/V	0	0	2	9.52	2	4.76

The frequencies of patterns, loop and arch extracted from Table 10 are shown below.

	Male			Female		
Pattern	Lt.	Rt.	Total	Lt.	Rt.	Total
Loop	6	5	11	8	7	15
%	18.18	15.15	16.67	38.09	33.33	35.72
Arch	4	4	8	2	2	4
%	12.12	12.12	12.12	9.52	9.52	9.52

Loops occur in a much higher percentage in females than males, while arches appear in the reverse order in the two sexes.

(c) Patterns on Thenar Area

The patterns on the thenar area are given in Table 11.

TABLE 11. PATTERNS ON THENAR AND 1ST INTERDIGITAL AREA

	Male			Female		
Pattern	Lt.	Rt.	Total	Lt.	Rt.	Total
L^r	6	1	7	—	—	—
%	18.18	3.03	10.61	—	—	—
A^r	2	2	4	3	3	6
%	6.06	6.06	6.06	14.29	14.29	14.29
0	25	30	55	18	18	36
%	75.76	90 91	83.33	85.71	85.71	85.71

Pattern A^r is found in a higher percentage (14.29) in females than males (6.06). The loop radial exhibits a large sexual difference ; it is completely absent in females while only 10.61% of males show it.

The frequencies of patterns loop and arch extracted from Table 11 are given below.

	Male						Female					
Pattern	Lt.	%	Rt.	%	Total	%	Lt.	%	Rt.	%	Total	%
Loop	6	18.18	1	3.03	7	10.61	—	—	—	—	—	
Arch	2	6.06	2	6.06	4	6.06	3	14.29	3	14.29	6	14.29

The ratio between hypothenar and thenar works up to 1.73 for males and 3.17 for females.

Compared with hypothenar patterns, the thenar patterns appear to be only a few. The sexual variation is also interesting. Females show more hypothenar patterns than males, while thenar patterns are fewer in the former than in the latter.

(d) Interdigitals

The patterns on the II, III and IV interdigital areas of the two sexes are given in Table 12.

TABLE 12. PATTERNS ON II, III AND IV INTERDIGITAL AREAS

	Male			Female		
Patterns	Lt.	Rt.	Total	Lt.	Rt.	Total
0-0-0	17	13	30	14	12	26
%	51.52	39.40	45.46	66.66	57.14	61.90
0-0-L	10	6	16	5	3	8
%	30.30	18.18	24.24	23.82	14.28	19.05
0-L-L	4	2	6	—	1	1
%	12.12	6.06	9.09	—	4.76	2.38
0-L-0	2	8	10	1	5	6
%	6.06	24.24	15.15	4.76	23.82	14.29
L-0-L	—	1	1	—	—	—
%	—	3.03	1.52	—	—	—
L-L-L	—	3	3	—	—	—
%	—	9.09	4.54	—	—	—
L-0-0	—	—	—	1	—	1
%	—	—	—	4.76	—	2.38

It will be clear from Table 12 that the main combination in II, III and IV interdigitals is 0-0-0. It has been found to be 45.46% in males and 61.90% in females. The combination 0-0-L occurs in the next highest percentage in both the sexes, namely, 24.24% in males and 19.05% in females. Males appear to show more patterns than females.

In general, the patterns on the hypothenar, thenar and interdigitals occur in the following percentages in the two sexes.

		Male	Female
1.	Hypothenar	28.79 p.c.	45.24 p.c.
2.	Thenar/I Interdigital	16.67 p.c.	14.29 p.c.
3.	II Interdigital	6.06 p.c.	2.38 p.c.
4.	III Interdigital	28.78 p.c.	16.66 p.c.
5.	IV Interdigital	59.39 p.c.	21.43 p.c.

(e) **Axial Triradii**

The frequency of the axial triradii in the two sexes is given in Table 13.

TABLE 13. DISTRIBUTION OF AXIAL TRIRADII

	Male						Female					
Axial Triradii	Lt.	%	Rt.	%	Total	%	Lt.	%	Rt.	%	Total	%
t	26	78.79	27	81.82	53	80.30	19	90.48	16	76.18	35	83.33
t′	4	12.12	2	6.08	6	9.09	1	4.76	1	4.76	2	4.76
t″	—	—	1	3.03	1	1.52	1	4.76	4	19.06	5	11.91
tt′	1	3.03	1	3.03	2	3.03	—	—	—	—	—	—
tt″	2	6.06	2	6 06	4	6.06	—	—	—	—	—	—

It will be seen from Table 13 that t occurs in both the sexes in the highest percentage, namely, 80·30% in males and 83·33% in females. t″ occurs in the next highest frequency, namely, 11·91% in females, while among the males t′ (9·09%) appears to occupy the second place. t″ was found in the right hand of one individual while tt″ was not found among females.

SUMMARY

	Characters	Male	Female
1	Finger-prints	Whorls – 55.95 p.c. Loop radial – 4.85 p.c. Loop ulnar – 35.57 p c. Arch – 3.63 p.c.	Whorls – 43.32 p.c. Loop radial – 3.34 p.c. Loop ulnar – 51.90 p.c. Arch – 1.44 p.c.
2	Comparative occurrence of Loops and Whorls	W>L on digits I, II and IV of both hands, other digits L>W. Prevailing order W>L	W>L on I and IV of left hand and I of right hand. Prevailing order L>W
3	Pattern Intensity Index	15.23	14.18
4	Arch-Whorl Index	6.49	3.32
5	Whorl – Loop Index	138.42	78.42
6	Monomorphic hands	16.67 p.c.	26.18 p.c.
7	Bimanuar	Highest peak at 6W4L (18.76 p.c.)	3 peaks at 8W2L, 2W8L and 10L, each 14.29 p.c.
8	Total Symmetry and Asymmetry	Symmetry—59.14 p.c. Asymmetry—40.86 p.c.	Symmetry—80.00 p.c. Asymmetry – 20.00 p.c.
9	Pair Group Rule	–0·69 (void) ΣP>ΣG	+0·15 (valid) ΣP>ΣG
10	Gene frequency	Thin epidermis (vv) 52.35 p.c. Uu, uu>Rr, rr RR>UU	Intermediate epidermis (Vv) 49.90 p c. Uu, uu>Rr, rr RR>UU
11	Main line Formulae	11·9.7.—24.24 p.c. 9.7.5·—27.28 p.c. 7.5.5.—12 12 p c. 11.0.7.—15.15 p.c. c	11.9.7.—16.67 p.c. 9 7.5.—30.95 p.c. 7.5.5.— 9.53 p.c. 11.0.7.—14.29 p.c. 9.0.5.— 7.14 p.c.
12	Endings of line D, C, B and A	D ends in 11 and 9 ; C ,, ,, 7, 9, X & O B ,, ,, 7 and 5″ A ,, ,, 4 and 5′	D ends in 11 and 9 C ,, ,, 7, 5″, 9, 10, X and O ; B ends in 7″ and 5 ; A ,, ,, 4 & 5′
13	Absence of Main line C	'O'—21.21 p.c, 'X'— 6.06 p.c.	'O'—26,19 p.c. 'X'— 4 76 p.c.

ERRATA

(**With the author's and editor's sincere apologies**)

Read	27	for 23	in page 2 line 2 (Table 1a—whorl Rt IV)
,,	2·13	for 2·15	,, ,, line 3 (Table 1a—whorl Rt III %)
,,	3·33	for 3·53	,, ,, line 3 (Table 1b—whorl Rt III %)
,,	15	for 13	,, ,, line 6 (Table 1b—Loop Ulnar Rt V)
,,	55·95%	for 53·95%	,, page 3 line 2
,,	43·32%	for 45·33%	,, ,, line 3
,,	3·63%	for 3·65 %	,, ,, line 4
,,	3·32	for 5·32	,, page 5 line 6 (paragraph 2)
,,	784·2	for 78·48	,, ,, line 7 (do.)
,,	$\Sigma P < \Sigma G$	for $\Sigma P > \Sigma G$	in page 7 line 9 (paragraph 2)
,,	Rr	for R1	,, page-8 line 33 (2 and 3—Factors R and U) line 9
,,	Fig. 3	for the graph in page 9.	
,,	12·65	for 20·65	in page 9 line 3 (Table 6—under UU) Pahira male
,,	3·03	for 30·3	,, page 10 line 6 (Table 7a)
,,	19	for 12	,, page 12 line 11 (Table 9—under Total)
,,	5″	for 5	,, ,, line 3 (Table 9—under endings of line C)
,,	5′	for 5	,, page 13 line 3 (Table 9—under Endings of line B)
,,	23	for 25	,, ,, line 3
,,	*46·96*	*for 49·96*	,, ,, *line 4*
,,	5′	for 5	,, ,, line 5 (Table 9—under endings of Line A)
,,	*5″*	*for 5*	,, ,, *line 7* ,,
,,	4	for 5	,, ,, line 8 (paragraph 1)
,,	2·38%	for 2·56%	,, page 14 line 3
,,	6·06%	for 9·96%	,, ,, line 8
,,	2	for 4	,, ,, line 8 (Table 10—Male)
,,	6	for 9	,, ,, line 8 ,,
,,	39·39	for 59·39	,, page 17 line 9 (IV Interdigital Male)
,,	t	for t′	,, ,, line 3 (Table 13)
,,	6·06	for 6·08	,, ,, line 4 (,,)
,,	1	for blank	,, ,, line 5 (Table 13—t″ Female Lt)
,,	$\Sigma P < \Sigma G$	for $\Sigma P > \Sigma G$	in page 18 character no. 9.

	Characters	Male	Female
14	Hypothenar	28.79 p.c.	45.24 p.c.
15	Thenar/ I Interdigital	16.67 p.c.	14.29 p.c.
16	Hypothenar— Thenar ratio	1.73	3.17
17	II Interdigital	6.06 p c.	2.38 p.c.
18	III Interdigital	28.78 p.c.	16.16 p c.
19	IV Interdigital	39.39 p.c.	21.43 p.c.
20	Axial Triradii	't'—80.30 p.c.	't'—83.33 p.c.

The author expresses his deep gratitude to Dr. S. S. Sarkar for his guidance in preparing this paper.

REFERENCES CITED

BONNEVIE, K.

1929, 1931 Was lehrt die Embryologie der Papillarmuster über ihre Bedeutung als Rassen-und Familiencharakter, III, Zur Genetik des Quantitativen Wertes der Papillarmuster. Ztschr. f. indukt. u. Vererburg, 57, 59.

CUMMINS, H. AND MIDLO, C.

1943 Finger Prints, Palms and Soles, Philadelphia.

GEIPEL, G.

1935 Anleitung zur erbbiologischen Beurteilung der Finger-und Handleisten, Munchen.

POLL, HEINRICH.

1938 Two Unlike Expressions of Symmetry of Fingertip Patterns, Human Biology, X.

RAY, A. K.

1954 The Reproductive Life of Pahira Women, Man in India, 34.

1958 An Anthropometric Study of Pahira. Bihar, Man in India, 38.

SARKAR, S. S.

1954 The Aboriginal Races of India. Calcutta.

FINGER-PRINTS OF THE HAJONG

BHUBAN MOHAN DAS

(Received on 12 August 1958)

Introduction

THE Hajong, who have been recognized as a 'tribe' by the Government, however, claim to be a branch of the Kshatriya V a r n a. By some authorities they are regarded as a member of the great Bodo race. In Assam they are chiefly distributed in South Goalpara and parts of the Garo Hills District. They are an agricultural people.

Finger-prints of 75 Hajong* males were collected in the month of December 1957 from the villages neighbouring Tikirkilla, a small locality situated at a distance of about 43 miles from Goalpara town on the way to Tura.

The three main finger patterns, viz. whorls, loops (radial and ulnar) and arches (Table 1) have been identified for classification. The following indices have been calculated from the frequencies of the above three patterns : Dankmeijer's Index, Pattern Intensity Index and Furuhata's Index. The bimanuar has also been constructed to represent the trifold pattern of the finger-prints. Poll's Pair Group Rule has also been applied.

The Data

TABLE 1. FINGER-PRINTS OF HAJONGS
(ALL FINGERS COMBINED)

	Whorls	Loops			Arches
		Radial	Ulnar	Total	
No.	332	13	386	399	12
%	44.68	1.73	51.96	53.69	1.63

Mr. Bhuban Mohan Das is Lecturer in Anthropology in the Gauhati University, Assam.

* The writer is thankful to Mr. T. C. Sharma, Dept. of Anthropology, Cotton College, Gauhati, for his help in collecting the data.

TABLE 2. FINGER-PRINT OF HAJONGS

			Left Hand						Right Hand					
			I	II	III	IV	V	Total	1	II	III	IY	V	Total
Whorls		No.	32	30	26	51	23	162	38	35	21	48	28	170
		%	4.30	4.04	3.50	6.86	3.10	21.80	5.11	4.71	2.82	6.46	3.76	22.86
LOOPS	Radial	No.	—	6	1	—	1	8	—	5	—	—	—	5
		%	—	0.80	0.13	—	0.13	1.06	-	0.67	—	—	—	0.67
	Ulnar	No.	39	34	44	24	50	191	37	30	54	27	47	195
		%	5.25	4.58	5.91	.23	66.73	25.70	5.00	4.03	7.27	3.63	6.32	26.25
	Total	No.	39	40	45	24	51	199	37	35	54	27	47	200
		%	5.25	5.38	6.04	3.23	6.86	26.76	5.00	4.70	7.27	3.63	6.32	26.92
Arches		No.	3	4	3	—	—	10	—	2	—	—	—	2
		%	0.40	0.54	0.40	-	—	1.34	—	0.27	—	—	—	0.27

Among the Hajong, loops (53.69%) occur in a much higher percentage than whorls (44·68%). Radial loops (1.73%) and arches (1.63%) occur almost in equal frequencies.

When the two hands are compared, it is seen that in both hands loops occur in higher frequency than whorls. The left hand (1.06%) shows more radial loops than the right one (0·67%). The same is true in the case of arches. It occurs in 1·34% in the left hand and in 0·27% in the right (Table 2).

TABLE 3. COMPARATIVE OCCURRENCE OF WHORLS AND LOOPS IN DIFFERENT DIGITS

Digits	Left	Right	Combined
I	L>W	W>L	L>W
II	L>W	W>L	L>W
III	L>W	L>W	L>W
IV	W>L	W>L	W>L
V	L>W	L>W	L>W

Digits III and V of both hands and I and II of the left hand show higher percentage of loops than whorls, while digit IV of both hands and I and II of the right exhibit more whorls than loops.

The majority of the radial loops occur in the II digit of both hands. Arches are seen in the I, II and III digits of the left and in the II digit of the right hand.

TABLE 4. INDICES

	Left	Right	Combined
Dankmeijer's Index	6.15	1.18	3.64
Pattern Intensity Index	14.09	14.51	14.30
Furuhata's Index	81.41	85.00	83.21

Furuhata's index is greater in the right hand, while the contrary is seen in case of Dankmeijer's index. The values of pattern intensity index of the two hands are almost equal.

Bimanuar

The bimanuar is shown in Fig. 1. Two equally high peaks are seen at 5W5L and 2W8L, the percentage of each

Whorls ↑	0	1	2	3	4	5	6	7	8	9	10
10	7·35										
9	7·35										
8	8·82										
7	2·94										
6	5·87										
5	13·23										
4	10·29										
3	11·76										
2	13·23	1·47	1·47								
1	7·35	2·94	1·47								
0	1·47		1·47								

Arches →

BIMANUAR OF HAJONG

Fig. 1

being 13·23. These are followed by 3W7L (11.76%) and 4W6L (10·29%).

*Pair Group Rule**

In application of 'Pair Group Rule' the present data shows the following results :

$$\Sigma P = 0{\cdot}50$$

$$\Sigma G = 1{\cdot}24$$

$$D = \Sigma P > \Sigma G$$

$$= 0{\cdot}50 - 1{\cdot}24 = -0{\cdot}74$$

or, VOID, as $\Sigma P > \Sigma G$

Discussion

Table 5 shows the comparative finger-print data of some peoples of Assam, the N. E. F. A. and the Bhotias.

The Kachari show the highest frequency of whorl (54.66%). They are closely followed by the Abor (53 24%). The Hill Garo (50.76%), the Bhotia (50.7%) and the Rabha (50·66%) show it in almost equal frequencies. The Plains Garo possess it in 47.96% and the Galong in 46 00%. The Rajbansi and the Hajong show it in 43.11% and 44.68% respectively.

Correspondingly, the Hajong (51·96%) and the Rajbansi (51.12%) show almost equal percentages of the ulnar loop. They are closely followed by the Galong (49.92%). The Plains Garo, the Hill Garo and the Rabha possess it in 47.57%, 46.55% and 46.24% respectively. The Kachari show it in 42.86% while the Abor present the least of all (41.25%). The Abor show the highest number of the radial loop (3.03%). They are followed by the Galong (2.07%) and the Rajbansi (2.02%). The Hajong (1.73%), the Plains Garo (1.39%) and the Rabha (1.55%) exhibit almost equal frequencies of the radial loop. The Hill Garo percentage is 0.93 and the Kachari 0.55.

* For clarification and formulae of Pair Group Rule, see footnote in page 7.
—*Ed.*

TABLE 5. COMPARISON OF FINGER PATTERN FREQUENCIES (IN %)

People	No.	Whorl	Loop Radial	Loop Ulnar	Loop Total	Arch	Author
Hajong	75	44.68	1.73	51.96	53.69	1.63	Das
Hill Garo	76	50.76	0.93	46.55	47.48	1.74	Das*
Plains Garo	94	47.96	1.39	47.57	48.96	2.98	,,
Rabha	295	50.66	1 55	46.24	47.79	1.55	,,
Kachari	109	54.66	0.55	42.86	43.41	1.84	,,
Rajbansi	130	43.11	2.02	51.12	53.14	3.73	,,
Abor	147	53.24	3.03	41.25	44.28	2.48	Bhattacharjya
Galong	152	46.00	2 07	49.92	52.00	2.00	Kumar
Bhotia	36	5.7	—	—	46.9	2.2	Tiwari

The Rajbansis show the highest percentage of arch (3.73%) which is followed by 2.98% in the Plains Garos, 2 48% in the Abors, 2.2% in the Bhotias and 2.00% in the Galongs. The Hajongs possess it in 1.63%, while the Hill Garos in 1.74%, the Rabhas, 1.55% and the Kacharis, 1.84.

Thus in the occurrence of various finger patterns the

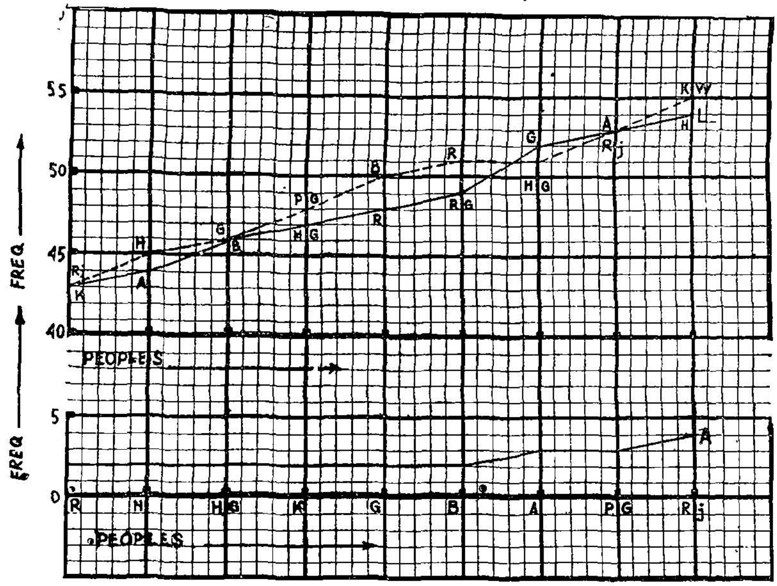

Fig. 2

Hajongs appear to be closer to the Rajbansis (Fig. 2) than to the

* Unpublished data of the present author.

4

other peoples. It also seems that there is not much difference among the above peoples in respect of finger-prints.

TABLE 6. COMPARISON OF INDICES

People	Arch-Whorl Index	Pattern Intensity Index	Furuhata's Index
Hajong	3.64	14.30	83.21
Hill Garo	3.42	14.90	106.90
Plains Garo	6.21	14.48	97.91
Rabha	3.05	14.91	106.63
Kachari	3.36	15.27	125.91
Rajbansi	8.65	13.98	81.12
Abor	4.66	15.08	120.23
Galong	4.34	14.40	88.46
Bhotia	4.33	14.83	108.10

It will be seen from the above table that the arch-whorl index

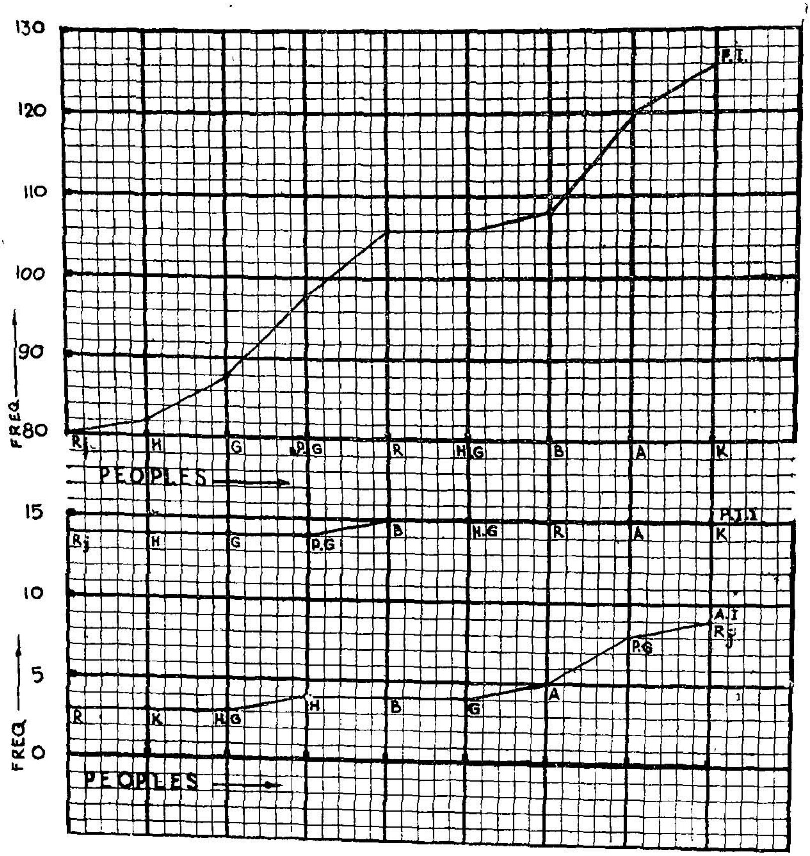

Fig. 3

varies between the maximum of 8·65 in the Rajbansis and the

minimum of 3.05 among the Rabha. From the latter the curve (Fig. 3) rises to 3.36 among the Kachari, then to 3·42 among the Hill Garo and then to 3.64, 4.33, 4.34, 4.66 and 6.21 among the Hajongs, Bhotia, Galong, Abor and Plains Garo respectively.

In respect of the pattern intensity index, little variation is observed among the different groups. The highest index of 15.27 is seen among the Kachari followed by 15.08 among the Abor, 14·91 among the Rabha and 14.90 in the Hill Garo ; it then falls to 14.83 among the Bhotia and then to 14·48, 14.40 and 14.30 among the Plains Garo, Galong and Hajong respectively. The lowest value is shown by the Rajbansi (13.98).

As regards Furuhata's index, the Hajong value is 83.21, which is closely followed by the Rajbansi value of 81.12. From the Hajong, the value rises to the Kachari (125.91) through the Galong (88.46), the Plains Garo (97.91), the Rabha (106.63), the Hill Garo (106.90), the Bhotia (108.10) and the Abor (120.23).

Thus in respect of the finger-print patterns, the pattern intensity index and Furuhata's index, the Hajong show closer resemblance to the Rajbansi than to the other people. Dankmeijer's index alone is much higher among the Rajbansi than among the Hajong. This high value is due to the higher frequency (3.73%) of arches among the Rajbansi than among the Hajong (1.63%).*

REFERENCES

BHATTACHARJYA, P. N.
1955 Dermatoglyphics of the Abor People in Assam. The Anthropologist, Vol. II, No. 2.

CUMMINS, H. AND MIDLO, C.
1943 Finger Prints, Palms and Soles, An Introductionto Dermatoglyphics. Philadelphia.

POLL, H.
1938 Two Unlike Expressions of Symmetry of Finger-Tip Patterns. Human Biology, Vol. 10, No. I, pp. 77.

*I am indebted to Dr. S. S. Sarkar for suggestions in the preparation of this paper.

THE EXTENSIONS OF AN INDIAN PRIESTLY CASTE

LALITA P. VIDYARTHI

(*Received on 7 October 1958*)

PERHAPS it has been a great development in the methodological and theoretical field of current anthropology to see a village in extensive social and religious ties with the outside world. In their village studies, Lewis (1955), Marriott (1955), and Opler (1956) have found the villages of India to be in continuous interaction with the outside-religious centres, market towns, educational and administrative headquarters. Another approach to the study of such a network is to analyse the links that a religious centre or a market provides to a group or groups of villages. Redfield and Singer (1954) provide such a conceptual framework of urban-rural interaction by examining the cultural role of cities. The roles of a religious centre in relation to Indian villages can be understood in terms of structural organization or analysis of contents, or perhaps more comprehensively if we employ both lines of investigation.

In the present paper, an attempt has been made to demonstrate how priestly castes belonging to centres of pilgrimage, as well as religious leaders of one kind or another, who are concerned with the cultivation and inculcation of the great traditions, are in structural relationship with the vast lesser communities of India. As a matter of method, focussing attention on a priestly caste, this point will be established by showing that priestly castes in India, in spite of several isolable and unifying elements, namely, group consciousness,

---

Dr. L. P. Vidyarthi is Reader and Head of the Department of Anthropology, Bihar University, Ranchi. His doctoral thesis at the University of Chicago was on the priestly caste of Gaya. The present paper was read at the 'India Session' of the Fifty-sixth Annual Meeting of the American Anthropological Association, Chicago, 1958.

ritualism, traditional priesthood and orthodoxy, by the very nature of their social and economic organization are in close inter-relationship with many other systems that exist outside their caste organization.

The illustrative material will be drawn from the author's study of a priestly caste, the Gayawal Brahman, who inhabit the famous sacred city of Gaya in North India. Gaya's sacredness as a place of ancestor worship known as S h r a d d h a or P i t r i p u j a n, and of the Vishnu cult, is celebrated first in the Sanskrit scripture named *Vayu Purana* that is dated between 300 and 600 A.D. (Kane, Keith). But other substantial evidences indicate that Gaya was a sacred centre even before the *Vayu Purana* was composed. The Gayawal priests, with their present population of 752, are equally ancient and a universally known priestly caste of India. In course of their long history, they have witnessed several phases of change, but still many of the traditional elements are maintained, and excluding local worshippers even in these days of secularism, more than fifty thousand people come every year on pilgrimage to Gaya from different parts of India.

Five types of persistent sacred relationship of the Gayawal with the outside world can be recognized : 1. P a n d a-J a j m a n i type or Priest-Patron type ; 2. P a u n i a or Master-Servant type ; 3. Brahmanical-non-Brahmanical Priest type ; 4. P u j a r i - D a r s h a n i a type or Shrine-priest and Worshipper type ; 5. S h i s h y a - G u r u type or Disciple-Spiritual teacher type (see chart at end).

The first, Priest-Patron type, refers to the hereditary relationship and mutual obligation that has been formed between the Gayawal families and families of clean castes from different parts of India who come to Gaya for ancestor worship. This is an elaborate and extensive inter-relationship that has developed between Gayawal priests and people living in all parts of India, and hence we will examine the nature and extent of this relationship in some detail.

The second, Master-Servant relationship, refers to semi-hereditary relationship that the Gayawal themselves have established with several caste specialists to provide

their patrons adequate sacred and secular service. In order to maintain their contact with patrons located in distant parts of the country, and attract and persuade them to come on pilgrimage, the Gayawal families maintain a travelling staff consisting of several caste specialists. With their help, they make all efforts to keep the current of pilgrims flowing. Then, to provide adequate sacred services and meet the requirements of their patrons when they arrive in Gaya, every Gayawal family employs and enters into relationship with several castes. The Brahman reciters, known as Acharya, take the patron or group of patrons or sacrificers to the forty-five shrines noted for ancestor worship, and at every place help the pilgrims to perform prescribed rituals. The clerk, called Munshijee, of Kayastha caste, maintains the genealogical records of the patrons who belong to the Gayawal family, and helps the Gayawal priest in establishing his claim over a patron when disputes arise on this account. The barber, engaged by each Gayawal family, does the ritual head-shaving of a pilgrim, while the floralist and many others supply such objects as are needed by pilgrims in course of the great ceremony. For their terms of service, they are dependent on the Gayawal and in no way on pilgrims.

Thirdly, the Gayawal are also on professional relationship with another caste of priests, usually called Dhami. The Dhami are guardians of five shrines which are dedicated to ghosts and spirits. At these places, rituals are conducted by the Dhami who are entitled to three-quarters of the gifts which are offered there. The remaining goes to the Gayawal priest. Though the Dhami call themselves Pretiya Brahman or Brahmans associated with ghost-shrines, it is usually believed by the Gayawal and inhabitants of the locality that the Dhami are not Brahmans. O'Malley (1906) considers it an old compromise between the more orthodox Brahmanical priesthood and the ancient tribal priesthood.

The fourth, Shrine-priest and Worshipper type, refers to the relationship which the Gayawal enters into with those local and regional worshippers who make ritual visits to one or many shrines. Such visits are made on several sacred days of

the Hindu calendar, or for the performance of certain rites de passage, or for the fulfilment of vows, etc. The Gayawal priests who attend to such ritual visitors come in situational contact with more than two hundred ritual visitors every day, while on special sacred days, the number may mount to several thousands.

The fifth and the last, but not least in importance, namely, the Disciple-Spiritual teacher type, refers to the Gayawal's relationship with his J a t i G u r u or caste and sect teacher, a holy disciple of Madhva sect, who is usually a Brahman from South India. He lives in a convent or M a t h run and financed by the Gayawal. He is a great spiritual guide for the Gayawals themselves and wields powerful influence in regard to the religious life of his disciples. The Madhva convent has always been an abode of holy men, and one among many was Ishvara Puri who was accepted by the great religious teacher, Chaitanya, as his spiritual guide when the latter met him in Gaya. Evidence has been also collected to show that many other important religious teachers and philosophers like Shankaracharya, Madhvacharya, Ramananda, stayed at one time or another at Gaya. The very fact that such religious teachers and saints have lived in Gaya is in itself a great attraction for the people, as they say, 'Holy are the places where holy men live'. Through their stay with the priests at sacred centres, and then through their tours and pilgrimages, these religious leaders have exercised powerful influence both on the priestly castes as well as on the lesser communities, and thereby have kept the traditions of Brahmanical religion alive.

With this brief introduction of the several types of relationship that the Gayawal has established with the outside world, let us now turn to some of the basic elements of the Priest-Patron-type of relationship before we proceed to make certain broad generalizations.

The caste organization of the Gayawal provides two effective mechanisms to identify and regulate the traditional Priest-Patron system. The first is the inheritance of lineage title, and the second is the ownership and maintenance of record books containing genealogical details of their patrons. Traditionally

the Gayawal are divided into 55 lineages, each lineage having a distinct title and a region of jurisdiction in one or many parts of India. Such titles are patrilineally inherited but, when due to one reason or another, some lineages become extinct, the title as a piece of property is inherited by some maternal relative, who in addition to his own title also bears the new one. This enables him to communicate with the patrons of the extinct lineage. In other words, the lineage titles through which the priests are identified by the patrons never become extinct; they become associated with some other surviving lineages, and thus the Priest-Patron relationship is always maintained.

The records of such patrons are maintained and kept up to date by the writer and genealogist whom every Gayawal family employs. When a lineage or a joint family of a Gayawal breaks into two or more, the area of jurisdiction as well as the number of patrons are likewise divided by distributing the record books locally known as Khata. In case of such inheritence, as well as partition, the members concerned keep at least their patrons informed about the changes by making tours, sending representatives, or now by writing letters.

In case of pilgrims who do not know the name or title of their priest, or if any Gayawal family fails to establish convincing claims on them, they are regarded as the patrons of the entire community, and all sacred and secular services are provided by a Gayawal organization called *Vishnu Ashram*, 'the seat of Vishnu'. Its earnings are used for the welfare of the whole caste and for maintaining holy persons who occasionally visit Gaya. Perhaps, it is one of the many arrangements to solve the conflict that arises between competing priests over the non-committed pilgrims. Still, such pilgrims have to undergo much harassment at the hands of the Gayawal and their representatives.

The Priest-Patron relationship based upon several obligations, finds expression mainly on two occasions : firstly, when a priest with his party or his representative pays a visit to his patron, and secondly, when the patrons with their relatives and attendants come on pilgrimage to perform ancestor worship or to keep some vow at the altar of Vishnu. The

purpose of the Gayawal priests or their representatives to visit their patrons are many ; to raise religious consciousness among the villagers of their areas of jurisdiction in respect of ancestor worship and the Vishnu cult ; to renew relationship with old patrons and realize arrears of collection from land and other estates that they might have received from rich patrons ; to approach rich patrons for help in some domestic financial crisis or to attend some celebration at their patron's residence on invitation ; to recruit new patrons and lead them to Gaya on pilgrimage.

Such visits mainly to patrons, especially in the past when transportation was difficult, required many preparations. The trips usually undertaken twice a year by priests and their representatives, used to last for, even six to eight months. These people carry with them such sacred objects for which Gaya is universally known, and they make presents of these things to their patrons. In their visits they are accompanied by devotional singers of the Kathak caste, and also carry with them their personal deities represented by brass images. Wherever they go and stay, their images are worshipped by many, devotional songs are sung, religious recitations are organized, and in this way the Gayawal mediate great traditions with laymen. As a result of secularization and economic change in India, such trips by the Gayawal or their representatives are now neither elaborate nor frequent, yet interviews indicate that even in these days they go on a round of such visits to their patrons who accord them hospitality and offer them presents and gifts.

When the patrons with their relatives come to Gaya for the performance of ancestor worship, the priests make all arrangements for their accommodation, cooking and ritual performances. Here, the patrons are taken to all the forty-five shrines, or at least to the five important ones where they perform elaborate rituals under the guidance of Brahman reciters. Ideally, such performances take about fifteen days, which only rich and devoted patrons can afford. In general, now-a-days, it takes five days to complete the main rituals, as the patrons do not visit all the places as they used to do in the past. The Gayawal

also run an association for devotional recitation, whose sittings are attended by these patrons from distant lands. In addition to a regular round of the shrines and performance of rituals, the patrons engage in many other religious activities like the construction and repair of temples, staircases on the river bank, feeding Brahmans and beggars, financing some religious gathering etc., which bring merit and reputation to them and also add to the status of the priests.

In reviewing materials of this kind, a number of points stand out quite clearly. One is that, in spite of a well-defined separate identity and group consciousness for which the Gayawal caste is well known, it leans heavily upon and interacts constantly with the outside world. When I first wrote about the Gayawal, I delimited its social structure within its marriage boundary; but later on I felt that its social organization should be studied in all its extensions. It seems worth while observing that the basic articulation of the Gayawal with other communities, castes, institutions, offices, religious personalities and far-flung places, which we have noted, rest on ancient practices and traditions. Contact and interaction of the Gayawal with the outside world might have started much earlier, but archaeological inscriptions lead us back as far as the 10th century A.D.

As a corollary to this, another point emerges which is the interaction of village communities with the Gayawal priests and their elaborate organization and holy teachers. Opler (1956) reports that Senapur in U.P. is visited by priests and their representatives from Banaras, Gaya and Allahabad. Marriot (1955) reports that villagers of Kishan Garhi had gone on pilgrimage to more than fifty distant places. In the Priest-Patron type of relationship, we find an indication of how Indian villages have been exposed to organized interaction with priests, their organization, religious centres as well as to great religious teachers.

If we see, then, the network of relationship that emerges from the study of sacred ties which bind Gayawal priests and laymen, Brahman and non-Brahman, different castes and classes, philosophers and literati and how they are in

interaction with each other, it helps us in the understanding of a civilization which Redfield (1955) rightly views as an organization of specialists, in characteristic relationship to one another and to lay people, and performing characteristic functions concerned with the transmission of traditions.[1]

CHART

THE GAYAWAL AND THEIR PRIESTLY ORGANIZATION IN STRUCTURAL RELATIONSHIP WITH THE HINDU UNIVERSE

Gaya Hierarchy—The Hindu Universe—Some Recent Developments
The Jati-Guru and
'Sacred intelligentsia'

The Dhami ← —— —Head Panda ——→ Pilgrims ←→ Agents and touts (Rojgaria)
(Non-Brahmanical Priests) — (Gayawal families) — (Jajmans)

Barber (Nai) —— Younger brother, Sons —Visitors (Darsania) — Priests of other places of pilgrimage especially Banaras and Allahabad

Acharya (ritualist)

Florists etc., (Mali) — Munshijee (clerk)

Senior servant ——→ Temporary staff
——→ Domestic and other Attendants

Travelling representative

REFERENCES

LEWIS, OSCAR
1955 Peasant culture in India and Mexico. McKim Marriott (ed.) : Village India. Chicago, University of Chicago Press.

MARRIOTT, MCKIM
1955 Little Communities in an Indigenous Civilisation. McKim Marriott (ed): Village India. Chicago, University of Chicago Press.

O'MALLEY, L. S. S.
1906 The Bengal District Gazetteer : Gaya. Calcutta, Bengal Secretariat Press.

OPLER, MORRIS E.
1956 The Extensions of an Indian Village. Journal of Asian Studies, Vol. XVI, No. 11.

REDFIELD, ROBERT
1955 The Social Organisation of Traditions. The Far Eastern Quarterly (now the Journal of Asian Studies), Vol.XV, No. 1.

REDFIELD, ROBERT AND MILTON SINGER
1954 The Cultural Role of Cities. Economic Development and Social Change, Vol. 3, No. 1. Reprinted in Man in India, Vol. 36, No. 3.

[1] The writer is thankful to Mr. T. C. Sharma, Department of Anthropology, Cotton College, Gauhati, for his help in collecting the data.

SERICULTURE IN MANBHUM AND ASSOCIATED OBSERVANCES

KHAJA ABDUR RAZEQ

(Received on 7 January 1959)

IN old reports, we are told that sericulture was in vogue in Manbhum. At the moment however it is practically extinct. A sample survey carried out during the autumn of 1957 showed almost complete ignorance of the technique, procedure and the rituals associated with sericulture by the younger generation. The survey was centred round Barabazar in Purulia District and covered an area of about 200 square miles. Barabazar was selected because of its peculiar location on an old road, now metalled, forming a trading (receiving and distributing) centre in a typically agricultural environment where the influence of expanding industrial age is not wanting.

G h u t i or silk cocoons were collected by two or three families of each village from s a l (Shorea robusta) trees. Cocoons rupture to produce a moth which lays eggs. The eggs are treated in a manner described below and transferred to suitable trees where the eggs hatch and caterpillars come out. This caterpillar has to be protected till it encloses itself in a cocoon. The time required for the caterpillar to transform itself to a cocoon is 2½ to 3 months.

The following is an account of the procedure adopted by one Mukundo Mahato. He is a respectable man of good health in spite of his age of eighty. According to him there are five trees on which G h u t i c h a s (sericulture) can be done with success, subject to the observation of proper rituals. The trees are A s h a n (Terminalia tomentosa), A r j u n

The author has taken his M. Sc. degree in Anthropology last year. His business in Manbhum and Orissa brings him in contact with numerous interesting castes and tribes.

(Terminalia arjuna), T o o n t or mulberry, P a k u r h (Ficus infectoria) and S i d h a. There are according to him three kinds of silk, (a) D h u l i a, (b) D a b h a and (c) J a r o r e.

The last time Mukundo cultivated tassar-silk cocoons was about 15 or 18 years ago. He has since given up this work. Cocoons were either collected or bought at the weekly market. They were fastened in bunches to a piece of s a b a i grass string and kept suspended from a s a l beam in the porch of the hut for 8 days. Bathing and ceremonial cleaning was done by my informant prior to collecting and fastening the cocoons.

During the period of storage of the cocoons, restriction on diet and abstention from sexual gratification are observed. In fact this is the beginning of a restricted life which is to continue for 2½ to 3 months.

The cocoons which were collected in mid-Ashar (July) ruptured within a week to produce a moth called the p a t n a, which is female. Some cocoons also give rise to male moth which is called t e r a. The patna clings to the grass string which forms the 'bed' on which it is crossed during the night by the male tera. On the morning following the crossing the male tera departs and dies. The patna however lives for 7 days after being crossed and lays eggs for 6 days, commencing from the second day following the crossing. On the 7th or last day after laying eggs, the patna dies and is thrown away as chicken feed.

On the morning following the crossing, the sericulturist (informant) took a cleansing bath and fasted till he had rehabilitated the patna in a bamboo-strip basket called t o n k a bought from the caste of Doms, who make such baskets. The patna were transfered to the bamboo basket which was lined and covered with C h e - o r e leaves stored in the cattle shed. The day following the transfer of the patna to bamboo basket, they start laying eggs and continue to do so for 7 days, after which they die. A single Bogo patna lays 3 p o n s of eggs during the 7 days (1 pon = 80). A single

Na-hegi patna lays 2 pons of eggs while a single Larya patna lays 30 gandas of eggs (20 gandas = 1 pon).

The eggs or the Lungma-Bili are considered something akin to sacred. Touching them or performing any act in connection with them is always done after ceremonial purification.

The basket is inspected daily in the cattle shed at morning. The eggs layed during the previous night are rubbed between the moving palms with powdered turmeric and placed in a pungi. The pungi is a triangular container made by pinning the ends of a che-ore leaf with either a twig or a bamboo splinter. Into each such container are placed 1 pon of eggs. The containers are fastened by their leaf-stock to a grass string and hung from a beam of the cattle-shed. The containers remain there for 8 days when the eggs hatch and minute worms called she-wali poka come out. The container with the wriggling animals are now taken to the bagan or garden after due ceremonial bathing. The 'garden' is a light jungle owned by the zemindar in which the trees needed for sericulture were proportionately more numerous than the usual trees of Manbhum jungle. According to my informant, no rent was charged by the zemindar as sericulture did not involve lumbering and destruction of trees.

On the morning following the hatching of eggs, the cultivator after due bath or ceremonial cleansing and while fasting, would transfer the container to the specific trees in the garden. The garden is entered by the cultivator after wearing a lugri or loin cloth. He continues wearing this throughout the period of cultivation. The containers are pinned to leaves of the particular trees with twigs or bamboo splinters. In the garden, a constant night and day vigil is kept. The process of transferring the newly hatched insects continues for seven days, with emphasis on ceremonial cleanliness and fasting. The fast is broken each day about forenoon when the transferring has been completed. Restriction on diet includes abstinence from fish, meat and biri pulses. Sexual congress and contact with menstruating women are avoided. Besides this, we note that sericulture is shrouded

with such taboos as the prevention of women from entering the garden and that on the cultivator from entering his hut at night. From this time onwards the a r w a l or cultivator and one or two men who assist him, who are usually members of his family, spend most of the time in the garden, under some large tree where a rude leaf-shelter in the nature of a wind-break is constructed. The cultivator's cot is tabooed to all persons except himself.

On the 6th day of transference of the caterpillar to the garden, the cultivator, but not his assistants, fasts for the whole day. He breaks his fast in the evening after a bath in the village pond. He then breaks his fast at his hut by eating a porridge-like preparation of a t a b or sun-dried rice, g u r or molasses and milk which is cooked by his wife prior to sun-set over a freshly plastered (with cowdung) oven. If the cultivator be a widower or his wife happens to be in her periods, the breakfast dish may then be prepared either by his mother, sister or by the cultivator himself. Of this dish, only the cultivator and his assistants may partake of. When the fast is broken the cultivator returns to the garden.

On the morning of the 7th day a p u j a or worship is performed and a vow taken in the name of a number of deities, which marks the commencement of transfer of the catepillar from one tree to another. This is necessary as the leaves are eaten by the growing caterpillars. The cultivator and his assistants as usual have the ceremonial cleansing bath before sunrise and come to the garden attired in their loin cloth. While returning from the tank the cultivator brings with him a hoe and some cowdung from his hut. These are used to clean and plaster a rectangular piece of ground some 4 × 4 cubits at the base of the first tree to which the triangular leaf containers had been pinned for the past week. While the cultivator is thus busy, one of his assistants procures from their hut some fresh milk in a brass pot, g h e e (butter oil), g u r (molasses), atab or sun-dried rice, vermilion, t u l a s i p a t a (leaves of the sacred basil plant) in leaf cups and an empty new earthen vessel. These are all placed on a new bamboo d a l a or tray and solemnly carried on the head to the garden.

Behind this assistant another assistant carries 8 cocks of various colours. There is a slight variation in the number of cocks sacrificed by the Santals where the number of deties is no more than five. The rituals of the worship described below are those of the Kurmi Mahatos which are slightly more elaborate in nature. The variation and the comparative simplicity of the Santal rituals will be noted besides the description of the Kurmi Mahato rituals wherever they occur. Where no variation is noted the rituals are identical. The incantations uttered by the Santals are in their own language, while those uttered by the Kurmi Mahatos are in Bengali.

A c h u l a or hearth is improvised by placing three large stones over a shallow trench. The assistants in the meantime collect dry branches and leaves which are set alight by fire produced on the spot by a technique demostrated to me by one of my informants. The fire is produced by twirling a dry stick placed between the palms of the hand while its lower end rests firmly on another piece of dry wood clamped down by the operator's feet. The lower wood has a notch-like cavity carved into it, which provides a seat for the rotating branch. The hearth thus lighted is employed to cook M o - n o - y e e, a porridge-like substance, prepared by boiling together milk, sun-dried rice, g u r and g h e e in the earthen vessel by the cultivator alone in the case of the Santals, while this rule is relaxed in the case of the Kurmi Mahatos. In the latter case, the assistants may cook and prepare the mo-no-yee. This is followed by the cultivator taking up his position for the puja in front of the previously cleaned and plastered ground facing east and sitting on his haunches. The cultivator then puts marks of vermilion in a straight line from north to south. The Santals put five marks of separate dots while the Kurmi Mahatos put 24 marks of dots with the second finger of the right hand. The Santal markings are clear dots separated from one another by about the distance equivalent to one span of the hand. The Kurmi Mahato markings are in groups of threes, each group having the same distance between them as that noted in the case of Santal dots. The

Santals place a sacred b e l (wood apple) leaf over each vermilion dot, while the Kurmi Mahatos substitute it by a leaf of the R a m - d a t a n plant. Over these, in both cases are placed a leaf of sacred basil plant. The Kurmi Mahatos place small lumps of mo-no-yee on the Ram-datan leaves for all the eight deities who are being propitiated. They also sacrifice cocks of various colours to these deities, a list of which is given below.

1.	Ban kuari	—white cock
2.	Motia burhi	—'khaira' or brownish cock
3.	Serang burhi	—red cock
4.	Kutum burhi	—cock of any colour
5	Pansi burhi	—white cock
6.	Dhaua kudra	—'kabra' or cock of mixed colour
7.	Bauria kudra	—black cock
8.	Bagut Thakur	—black cock

The cocks are fed with rice and are sacrificed by their heads being severed, while they are feeding, with a single stroke of a d a o which is a short iron implement. The Santal ritual varies as noted below.

The vermilion dots are covered each with a single bel leaf over which is placed a leaf of the sacred basil plant. Mo-no-yee is not placed on all the leaves and the deities propitiated are not the same. The common deities are the Ban Kuari and Bagut Thakur.

1. Ban kuari —white cock
2. Ranga hari —red cock
3. Bagut Thakur —black cock
4. Dhram—mo-no-yee, vermilion, a few drops of mustard oil, gur, ghee, atab rice.
5. Goram—mo-no-yee, vermilion, a few drops of mustard oil, gur, ghee, atab rice.

The Santals make a vow to Goram to offer him a male goat and pray to him for success.

The Kurmi Mahatos do not take any such vow. With the worship thus over, the cultivator climbs the tree and cuts the branches on which the caterpillars are wriggling. The Kurmi Mahatos before cutting the branches tie T a l m o o l i with

sabai grass string and pour milk over it. The cut branches are divided into 5 equal parts each of which part is tied to a separate tree. Some 4 or 5 pons (80s.) of caterpillars are put on each tree. While the cultivator is thus busy cutting and distributing the branch, his assistants skin and roast the sacrificial cocks. The meat of the sacrificial birds are eaten by the cultivator and his assistants, while the heads of the cocks are reserved for the cultivator who performed the sacrifice.

The caterpillars are watched and their growth in size and rate of feeding carefully noted. In about 14 days the ravenous insects eat up all the leaves of the trees on which they were lodged. This depends on the size of the tree and the density of foliage. With the thinning of the leaves the caterpillars are transferred to fresh trees by a process similar to the first transfer described above, but without the associated rituals. On and from the third transference the caterpillars are not divided into five fresh trees. They are simply transferred to fresh trees for feeding. This process is repeated till the cocoons are ready in about sixty days from the first transfer.

Before the cocoons are collected a worship called B h a n g a p u ja is performed. Its procedure is noted below.

The B h a n g a p u j a is performed in Aswin (September). The Kurmi Mahatos perform this worship in a manner similar to the one described above. There is, however, an additional element here of sacrificing a male goat to Ban Kuari the Forest Maiden. The implement used for sacrifice is the dao which had been earlier used in the cutting of caterpillar-bearing branches. According to my informants, the cost of a B h a n g a p u j a some 20 years ago was from ten to twelve rupees.

The Santals also perform the B h a n g a p u j a which is ritually quite different from that of the Kurmi Mahatos. The worship is performed at B a i s a m b e l a or about 9 A. M., after the usual ceremonial bath in the pond. The cultivator cleans and plasters a rectangular piece of ground under a tree from which he is to collect his first lot of cocoons. On this clean spot, the cultivator places a branch of Asan tree having

5 cocoons. On each cocoon the cultivator puts a dot of vermilion and one of mustard oil. He then sacrifices a male goat to G o r a m T h a k u r, the village deity, and prostrates to the east while his assistants stand behind reverently. The cultivator repeats loudly the following incantation :—

> Ma tob yeh Goram Thakur man sik lay doo lay Na lay
> eman kana emad
> me ah lay abad gutiah
> ye dee ah lay

Free translation : 'Oh Goram Thakur ! I am fulfilling my vow and am taking the cocoons home.'

The cultivator then climbs the trees in the garden and collects the cocoons. While he is thus busy ,his assistants cook the sacrificial meat. The cocoons are steamed by being placed in a perforated earthen vessel over another vessel of boiling water. The steamed cocoons are sun-dried and taken home where they are stored in a net bag made of hemp string in the cattle shed. The sacrificial meat is eaten by all present in the garden, the head of the goat being eaten by the cultivator.

After gathering the cocoons in the string bag, the cultivator and his assistants became automatically released from the ritualistic taboos they had so rigidly observed.

The cocoons are stored till the weavers or their agents come to collect them. The weavers are not local weavers but people coming all the way from Bhagalpur in Bihar. Tradition does not permit the local weaver to spin and weave silk. It may here be noted that at Raghunathpur in the Bankura District which is about 100 miles, there still exist a class of weavers who specialize in silk weaving.

Silviculture as such had and still does offer livelihood to a certain section of the population which is fast decreasing. In the course of the first seven days of field work, only one man could be found who has personal knowledge from experience regarding the technique and ritual associated with sericulture. According to him and other sericulturists who were traced

later, the cause of the disappearance of this useful art rests upon a succession of unfortunate incidents which were classified for the writer as, (i) the widespread destruction of trees which were suitable for sericulture, (ii) the non-observance of associated rituals by the younger generation, (iii) the desire by the younger generation for a change in occupation and consequent migration of those acquainted with the technique and rituals to the industrial town of Jamshedpur or to the tea-gardens of Assam, and (iv) a preference for more lucrative occupation such as work in roads and railways.

VILLAGE STUDIES IN INDIA

K. S. MATHUR

(*Received on 11 December 1958*)

DURING the last decade or so, studies of single village communities have become popular in Indian social anthropology. During the year 1955 alone, no less than three anthologies of anthropological studies based on rural research and one full-length monograph on an Indian village were published. (See Dube 1955, Majumdar (ed.) 1955, Marriott (ed.) 1955, and Srinivas et al. 1955). Since then four more monographs based on village studies have appeared (see Bailey 1957, Carstairs 1957, Dube 1958, Lewis 1958) and several are in the press or in the final stages of analysis and writing.

Not all of these are of the same character. Some are survey-based, many are descriptive monographic, and a few are problem-oriented. In this paper a brief historical-cum-evaluative resume of these researches is attempted.

Interest in the village is nothing new. Some of the earliest British administrative officers, back in the latter half of the nineteenth century, drew the attention of the authorities to the fact that India was essentially a land of villages, and that in order to understand or develop India, India's villages will have to be studied and understood first. Little attention, however, was paid to such pleas and besides Baden-Powell's two books on Indian village communities and a few others of the same type, we possess practically no work of importance from that period. (See Baden-Powell 1896, also Maine 1871). The India that the European saw and was

---

Mr. K. S. Mathur is Lecturer in the Department of Anthropology, University of Lucknow. His paper is based on an essay read at the Third All-India Sociological Conference, Agra, in February 1958. The author wishes to express his thanks to Dr. S. C. Dube in this connection.

primarily concerned with was the India of the cities and towns and of the educated middle class Indians.[1]

Later on, attention was drawn to our villages and their importance in the development of our national economy by Mahatma Gandhi who pointed out that the neglected villagers who constitute more than three-fourths of India's population are the real folks who produce food and supply the labour force to run our industries. Emphasis was laid on rural economic development, literacy, and social reform. A number of economists and social reformers wrote about our villages. Several of them based their writings on data collected through economic surveys.[2] Many, however, were emotionally loaded descriptions of the pitiably poor condition of the villager in India, about his indebtedness, about his superstitions, his religious consciousness verging on orthodoxy, about caste and its stranglehold on people's lives, about untouchability, and the tyranny of landowners over cultivators. In any case, they succeeded in drawing sufficient attention of the authorities and social workers to the village. Thus, when India achieved independence in 1947, the National Government expressed its desire to elevate the masses, to uplift the villages and improve the lot of the common man. The planners, however, were baffled by the extremely intricate social situation in the village communities in different parts of the country. It was perhaps this realization which has thrown rural investigation into the lap of the social scientist.

In India, a full-length village study first came from S. C. Dube in 1955. This is his *Indian Village*, 'a descriptive account' of a Telengana village near Hyderabad city. The

---

[1] This is not quite fair. N. C. Bhattacharyya and C. A, Natesan, in their *Some Bengal Villages* (University of Calcutta, 1932) state that 'in 1897 was published a Report on Agricultural Experiments and Enquiries in Burdwan District. It contained the economic survey of a village in Burdwan by Mr. A. C. Sen'. Similarly, J. C. Jack of the Indian Civil Service published his book, *The Economic Life of a Bengal District* (Oxford, Clarendon Press, 1916) which not only described the economic, but also the social situation in Faridpur. The Famine Commissions of 1880, 1898, 1901, the Irrigation Commission of 1903, the Committee on Co-operation of 1915, the Royal Commission on Agriculture in India (Report, 1928) were all interested

research was carried out by a team of specialists led by Dr. Dube, 'an outcome of the Social Service Extension Project sponsored by the Osmania University and a plan of community study, organised by the Department of Sociology and Anthropology'. In this study, he has applied the concept of 'peasant society' suggested by Redfield to the Indian situation and has made use of the research techniques of Redfield and Oscar Lewis in their study of Mexican villages (see Redfield 1930, 1950, 1953 ; Lewis 1951).

The period, 1951-55, might be regarded as the peak period for village studies in India, when a number of social anthropologists and rural sociologists carried out research in villages in all parts of India. Advanced notes on some of these in the form of brief ethnographic papers, were published during 1951-52 in the *Economic Weekly*, later revised and published in book-form by the West Bengal Government Press (*India's Villages*, edited and with an Introduction by M. N. Srinivas, 1955). In the same category of descriptive rural ethnography may be included several papers published by Prof. Morris E. Opler (occasionally in collaboration with Sri Rudra Datta Singh) based on his researches in a village in eastern U. P. (See Opler 1950, 1952, 1956 ; Opler and Singh 1948, 1952a and 1952b ; and Singh 1956).

Prof. M. N. Srinivas introduced in Indian rural studies the tools and concepts developed by British social anthropologists (Srinivas 1952). In his study of a Mysore village and in Dr. Kathleen Gough's analysis of a Tanjore

---

primarily in rural India ; and as a result of their labours, a large mass of information was made available.

Non-official organizations and our universities also produced work of merit and dependability. Bhattacharyya aad Natesan's book has been referred to already. The University of Lucknow also published a survey entitled *Fields and Farmers in Oudh* (ed. by Radhakamal Mukerjee, published by Longmans Green and Co. Ltd. 1929) of considerable value. The Viswabharati also published studies of the village of Ballabhpore near Santiniketan, while Arthur Geddes published his study of the 'Land of Tagore' in French in 1922.

[2] See, for instance, J. C. Kumarappa's *A Survey of Matar Taluka*, Ahmedabad, or N. S. Subramanian's *Survey of a South Indian Village*, A. I. C. C., Allahabad, 1937.

village (in McKim Marriott 1955), the village community appears as a 'structural system' with conventionalized social relations, statuses and roles. To a somewhat different type of rural research belongs Dr. Oscar Lewis' work on *Group-dynamics in a North Indian Village* (see Lewis 1954, also 1958). This is based on a pilot research project sponsored by the Programme Evaluation Organization of the Planning Commission during 1952-53. This attempts at probing into the problem of inter-caste factions in a village community and is an excellent model of the type of work which social anthropologists can do in the study of rural problems.

Important research work of a similar nature was being carried on during the period 1952-55 under the auspices of the Cornell-India (Lucknow) Research Programme. Three teams of anthropological investigators carried on research into the role of communication in caste organization and inter-caste relations in three villages of U. P.—in a western U. P. village directed by Dr. Dube, in a Lucknow village directed by Prof. D. N. Majumdar, and in a Dudhi village supervised by Prof. Majumdar. When the Cornell-India (Lucknow) Project was wound up in 1956, work at the two latter centres was taken up by the P.E.O., directed and supervised by Prof. Majumdar. The western U. P. project had already been completed. Dr. Dube has recently (1958) published his book, *India's Changing Villages*, based on team work in the western U. P. village. Dr. Majumdar's book on Mohan village in central U. P. (*Caste and Communication in an Indian Village*) is in the press[3] and the report on Dudhi is in course of preparation.

By 1956, rural studies had become fairly common in India, and perhaps the competence shown by anthropologists in the handling of complex rural communities was recognized by the Planning Commission. Perhaps they also realized the importance of social research in the understanding of the problems of Indian rural communities as a prerequisite of the second stage of planning on a country-wide basis. Most of the University departments of anthropology and sociology were entrusted with community-surveys to assess

[3] It has been published in December 1958.

the role of C. D. P. work in rural areas, or to evaluate the changes brought about by the impact of technology, heavy industries or multi-purpose projects. A number of these were what we call 'action-research', i.e. the investigator also participates in social action and studies the changes which he helps to bring about.

On a purely academic level, too, interest in rural analysis and sociological investigation of the structure of village communities is gaining ground. A few anthropologists and sociologists have carried out village community studies, both descriptive and analytical. Noteworthy are F. G. Bailey's study of economics in an Orissa village (see Bailey 1957) and G. Morris Carstairs' book on a Rajasthan village (Carstairs 1957, also 1953). Among the unpublished researches may be included Y. B. Damle's work on problems of cultural communication of modern ideas in Bombay villages (Damle 1955) and K. N. Sharma's study of culture change in a Kanpur village (Sharma 1956). Similar studies were carried out by Adrian Mayer on caste and kinship in a Malwa village (see Mayer 1956a, 1956b, 1957), by B. R. Chauhan in a Rajasthan village (see Chauhan 1956) and by myself on caste and ritual in a Malwa village (see Mathur 1955, 1958a, 1958b).

Within a short period of less than a decade, the amount of work done is not insignificant. But Indian sociologists and social anthropologists carrying on rural research have not been able, up to now, to sit together, exchange notes, and discuss the theoretical and methodological concepts required in such studies. Independent enquiries into living conditions and social values among villagers in different parts of the country have their own significance and will certainly be useful both to the administrative planner, and the academic rural analyst. But until and unless we agree on the use of certain conceptual tools in our studies and orient our research in that light, our village studies will remain isolated surveys and will not yield to systematic comparison which is the essence of scientific method in the social sciences.

BIBLIOGRAPHY OF VILLAGE STUDIES IN INDIA

BADEN POWELL, B. H.

1896 Indian Village Community. London.

BAILEY, F. G.

1957 Caste and the Economic Frontier. Manchester.

BRAYNE, F. L.

1927 Village Uplift in India.

1929 The Remaking of Village India. London.

CARSTAIRS, G. M.

1953 Medicine vs. Magic in Northern India. Cultural Aspects of Public Case Study No. 10. Case Studies in Social Health, Harvard School of Public Health.

1957 Twice Born.

DAMLE, Y. B.

1955 *The Problem of Cultural Communication of Modern* Ideas in Indian Villages. Agra University. MSS.

DARLING, M. L.

1934 Wisdom and Waste in the Punjab Village. London.

DESAI, A. R.

1948 Social Background of Indian Nationalism. Bombay.

DUBE, S. C.

1955 Indian Village.

1956 Cultural Factors in Rural Community Development. Journal of Asian Studies, Vol. XVI, No. I.

1958 India's Changing Villages. London.

FOSTER, G. M.

1953 What is Folk Culture ? American Anthropologist, Vol. 55, No. 2.

LEWIS, O.

1954 Group Dynamics in a North Indian Village. New Delhi.

1958 Village Life in a North Indian Village.

MAINE, SIR HENRY.

1871 Village Communities in the East and West. London.

MAJUMDAR, D. N.

1956 Rural Analysis, *Problems* and Prospects. Eastern Anthropologist, Vol. IX.

MAJUMDAR, D. N. ed.

1955 Rural Profiles. Lucknow.

MARRIOTT, M. ed.

1955 Village India. Chicago.

MATHUR, K. S.

1955 Some Aspects of Social Organisation in a Malwa Village. Journal of Research. Agra University.

1958a The Indian Village—Is it a Structural Unity ? Journal of Anthropology Department. Bihar University.

1958b Caste and Occupation in a Malwa Village. Eastern Anthropologist, Vol. XII, No. 7.

MAYER, A. C.
1952 Land and Society in Malabar. Bombay.
1955 Change in a Malwa Village. Economic Weekly, Vol. VII. No. 39.
1956a Some Aspects of Caste Hierarchy. South-Western Journal of Anthropology, Vol. 12.
1956b Development Projects in an Indian Village. Pacific Affairs, Vol. XXIX, No. 1.
1957 An Indian Community Development Block Revisited. Pacific Affairs, Vol. XXX, No. 1.

MUKHERJEE, R. K.
1949 Economic Structure of Rural Bengal. American Sociological Review, Vol. XIV, No. 3.
1957 Dynamics of a Rural Society. Berlin.

OPLER, M. E.
1950 Village Life in North India, Patterns for Modern Living. Chicago.
1952 Village Social and Political Organisation and Economic Growth in Modern India, paper at the Conference on Economic Growth in Selected Countries.
1956 The Extensions of an Indian Village. Journal of Asian Studies. Vol. XVI, No. 1.

OPLER ; M. E. & R. D. SINGH
1948 The Division of Labour in an Indian Village. A Reader in General Anthropology, (ed. by C. S Coon). New York.
1952a Two Villages of Eastern U. P. : An Analysis of Similarities and Differences. American Anthropologist, Vol. 54, No 2.
1952b Economic, Political and Social Change in a Village of North Central India. Human Organisation, Vol. II, No. 2.

REDFIELD, R. :
1930 Tepoztlan : A Mexican Village. Washington.
1941 The Folk Culture of Yucatan. Chicago.
1950 A Village That Chose Progress. Chicago.
1953 Little Community. Chicago.
1955 Peasant Society and Culture. Chicago.

SHAH, A. M.
1955 A Dispersed Hamlet in the Panchmahals. Economic Weekly, Vol. 7, Nos. 4 & 5.

SHARMA, K. N.
1956 Culture Change in a Little Community, paper for the Second All-India Sociological Conference, Patna.

SHEA, T.
1955 Economic Study of a Malabar Village, I and II. Economic Weekly, Vol. 7.

SINGER, M.
1955 The Cultural Pattern of Indian Civilization. Far Eastern Quarterly, Vol. XV, No. 1.

SINGH, R. D.
1956 The Unity of an Indian Village. Journal of Asian Studies, Vol. XVI, No. 1.

SINGH, V. B.
1955 Changing Patterns of Indian Village Communities. Journal of Research, Agra University.

SLATER, G.
1918 Some South Indian Villages. Madras University.

SMITH, M.
1946 Village Notes from Bengal. American Anthropologist, Vol. 48, No. 4.

1952 The Misal : A Structural Village Group of India and Pakistan. American Anthropologist, Vol. 54, No .1.

SRINIVAS, M. N.
1952a A Joint Family Dispute in a Mysore Village, Journal of the M. S. University of Baroda, Vol. 1.

1952b Religion and Society among the Coorgs of South India. Oxford.

1954 A Caste Dispute Among Washermen of Mysore. Eastern Anthropologist, Vol. VII, Nos. 3 & 4.

1956 A Note on Sanskritization and Westernization. Far Eastern Quarterly, Vol. XV. No. 4.

SRINIVAS, M. N. AND OTHERS.
1955 India's Villages. Calcutta.

SRINIVASACHARI, C. S.
1932 Village Organization in the Madras Presidency at the Time of the Introduction of British Rule. Journal of the Annamalai University, Vol. I.

THOUGHTS ON FAMILY PLANNING

S. N. SANYAL

(*Received on 25 December 1958*)

ABOUT fifty years ago, the work of family planning was initiated by two great pioneers, Margaret Sanger and Marie Stopes. From a very small beginning, they succeeded in establishing instructive clinics in their own countries in U. S. A. and in U. K. This was no easy task, opposition came from every quarter. Not only were governments hostile, but there was also opposition from the people for whose benefit the movement was launched. But with courage of conviction they succeeded in forging their way through, undaunted even by persecution. Gradually the value of the movement was properly realized, the objective gained the sympathy of sociologists as well as of demographers. The grim reality of population growth outstripping the food production and rapid depletion of the earth's reserve was hard to disregard. This necessity was more acutely felt when it was realized that the death rate was also going down far too fast due to the invention of modern wonder drugs. Malthusian checks were losing their effect, so that it was felt that there must be some self-imposed checks to bring about a balance or it might lead to serious consequences. Opposition turned into active support from all quarters and today it may be said that clinics for family planning have been established in almost all the advanced countries of the world. Occasionally, here and there, some opposition is still encountered, but these are nothing more than the outcome of political motive or ignorance.

Catholic Opposition

The authorities of the Roman Catholic Church vehemently oppose the introduction of contraceptive measures on religious

---

Dr. S. N. Sanyal, who is a medical practitioner, has been engaged in researches in oral contraceptives and has achieved distinguished results in this particular field. His work is carried on at the Calcutta Bacteriological Institute.

grounds. But is it not a paradox when they, at the same time, promulgate the theory of service to humanity ? Prompted by the spirit of service, missionaries plunge into the midst of lepers defying the impending dangers and denouncing all personal comforts, live with them, just in order to help them and serve them in all possible ways. Missionaries establish hospitals, rescue homes, educate the poor and the downtrodden, just for the service to humanity—for the service of God, The Almighty. For after all, these beings, however lowly, are no more than the sons of the same Father. On the other hand, the teeming millions who are being added to the existing numbers of mankind every day, find themselves born in circumstances where survival itself becomes increasingly difficult. The argument may be forwarded that they are God's creation and no one has the right of interfering with the action of God. It may also be argued against this that the blind, the sick, the poor and those stricken by leprosy are also destined by God to suffer ; then why should missionaries be concerned about them and not about the potential suffering of unborn generations ? A dynamic religion adjusts itself to the needs of society, so that maximum benefit and happiness may be accorded to humanity. When the population of the world was low and when there was potentially a sufficient supply of food and raw resources of the earth, truly it would have been wrong to prevent birth. But conditions, both social and economical, have changed enormously now. It is expected that the same impulse of service to humanity may be extended by sanctioning family planning measures also.

Introduction of New Programme

Convinced about its success, the promoters of the family planning movement legitimately incorporated in the programme items like advice and treatment for sterility and marriage counselling. It is true, that the happiness and joy of family life rests upon children. Not only so, the fulfilment of womanhood is in motherhood. It is also well recognized that maladjustment in married life brings about

disruption and ruin of the family. If the cause lies in a mechanical or humoral factor, this might be rectified, and if it is due to any psychological factor, at least an attempt might be made with the help of modern methods of psychotherapy for its correction. Present day literature definitely suggests that in such cases of maladjustment psychological factors play a great part.[1,2] Introduction of measures for the treatment of sterility and also for marriage counselling is really an outcome of proper human understanding and is in harmony with the original conception of family planning. In fact, this adds to the significance of the family planning movement and for this wider way of approach, it is really a family welfare movement.

Deviation

When recently the pressure of population growth was more acutely felt, especially in the advanced countries where there was apprehension of lowering the standard of living, the promoters of the family planning movement did not hesitate to introduce such measures as abortion, ligation, vasectomy, etc. just to meet the end by any means whatsoever. However benevolent the motive might be, there is no justification for the adoption of such mutilating measures in order to meet the problem of overgrowth of population. Is this not a paradox to call this family planning instead of family limitation ? Have the advocates ever thought of the social consequences of such measures ? If the problem settles down to one point, namely, that growth must be checked anyhow, why should not recourse be taken to infanticide, which was already in vogue in many countries including India ? One should collect a true and wide-scale statistics of the outcome of such mutilating measures as abortion, ligation and vasectomy.

Abortion

Gynaecologists will say that conception quickly follows an abortion. It might be effective, but at what price ? This gives only a breathing time as in the case of Japan. One should enquire as to why Japan gave it up at all ? Not only is

there risk, but there are also grave repercussions on the mind which cannot be lightly brushed aside.

Ligation

Pride of womanhood is in motherhood and her vanity lies in the fact that she can conceive but she won't. But when after ligation she realizes that she cannot conceive, this vanity disappears and the woman also loses all interest in life, if she does not become a mental wreck. All thoughtful gynaecologists and practitioners will corroborate the truth of this statement, especially when such operations are performed on young patients aged about 24 or 25. They are enthusiastic in the beginning but repentant all the rest of their lives. Furthermore, they become abnormally concerned and worried about their children. These patients become psychopathological and end by making the life of their husbands and children miserable. In many instances, it has been found that they lose their feminine beauty and softness; buttocks flatten, breasts sink and even in some cases, a male-like voice develops. How many families have been ruined by taking to such measures! Of course, no such manifestation is encountered in the case of women of advanced ages between 35 and 40. In these cases, the patients become fatty or flabby. This statement is from personal experience and from the experience of many practitioners.

Vasectomy

As in the case of Stynach's operation (on one side), there is an augmentation of the sex drive, so that it might even become too much for the wife. But subsequently there is great depression. Progressive diminution of spermatogenic activity leads to the degeneration of seminal epithelium, and when it is complete it might lead to degeneration of the interstitial tissue cells and might give rise to serious consequences.

Prevention of Ovulation

Another, equally dangerous procedure is prevention of ovulation. No doubt this is one of the surest methods of birth

control by biological means ; but it should not be forgotten that the reproductive apparatus is not an organ isolated from the rest of the system The human system is not a machine. It is of the nature of a highly complex automatic machine plus something else, namely, the mind. The control depends on the endocrine glands and the nervous system ; even then the final controlling authority, although still undetermined, is the mind. There is so much interrelation and interdependence between the controlling centres that if, by any chance, one part is disturbed, the balance is lost and there are serious disturbances in the entire biological system. The proper functioning of this complex system depends on the harmonious action of all the centres. Biologists are fully aware of these facts and require no illustration. Warning has been issued from time to time by authorities on the subject that no attempt should be made to cause a loss of balance in the harmonious action of the biological system.[8]

Harmony

Balance or harmony is the key-note everywhere and in every branch of science. Physical culturists take particular care in their training so that one set of muscles might not overdevelop at the cost of others. This, we believe, is equally true in physiology, sociology and other branches of science. Thoughtless utilization of land for ready profit might ultimately result in serious loss of top-soil in a country. In U. S. A., pasture lands were brought under the plough and this resulted in depletion of cattle.[3] Consequently, animal food has to be imported from Australia. Profit from timber induced sacrifice of forests and the effect was manifested in the flooding of rivers, soil erosion, etc.[3] Such instances are many.

Nature is a very generous giver, but at the same time she is a very exacting master. Nature can upset all human calculation if this does not fall in harmony with existing conditions. In the attempt to bring about change, lessons should be taken from nature. In the sky, planets and stars obey certain laws which are responsible for maintaining harmony.

If this balance is lost, the result is annihilation. Further, solar radiation is absorbed by the soil, plants grow on the strength of this energy, animals live on these plants and human beings live on plants and animals. Similarly, again, clouds form in the sky from the water vapour which rises from the sea and again pour down on earth as rain, maintaining the rivers and both animal and vegetable life. These are instances of harmonious interrelationship. An animal like a tiger realizes the utility of such a balance. When the cubs grow up and are fit to live on prey, they are thrown out of the forest, with the instinctive apprehension that too much killing to maintain them all, would deplete the forest, and result in starvation for all.[4]

What is true of nature is equally true of human society. Innovation is good and should be encouraged, but care should be taken so that there might be a harmonious blending with the existing conditions in society. If it is otherwise, either the change becomes ineffective or there is disaster in the long run.

It is well known that a mother having male children alone, longs for a female child and conversely mothers having female children only are eager for a male child. Whatever the reason might be, such wishes are natural and should be respected. There cannot be any justification for the recommendation of ligation or the like in such cases. If there is no mental reconciliation, the shattering of her psychological hopes and aspirations is sure to cripple her both mentally and physically, resulting in ultimate ruin of the family. The true objective of family planning is to enhance spacing between children for the welfare of the children and the mother, as well as of the family and society. In the case of lepers, lunatics, imbeciles, etc. the question is different and there might be justification for such measures ; but not in normal cases and especially when the patients are young. As a rule, in family planning measures there should be no place whatsoever for any of these methods of mutilation.

Planning without a Plan

For successful planning, and to derive maximum benefit in this direction, introduction of any method which the promoters

might think best, would not necessarily be of use. Initially, it is imperative to study the existing social and economical conditions of the place and its people, and the introduction of progressive suitable methods, rather than drastic measures, might then yield desired results. For example, if the social condition, such as early marriage is not encouraged both socially and by the State by enactment and enforcement of law, surely high birth rate would come down at least to some extent. It has already been observed that birth rate is highest between the ages of 15 and 20, it is about 97 pregnancies per 100 couples per year.[6] Here it may be mentioned that in U. S. A., the birth rate is rising and is already about 1·6%. In U. S. A. there is a growing tendency towards early marriage among girls. It is also felt by many that industrialization and improvement in economic condition might lower birth rate.

In a family planning movement of the right kind, there should be a target to reach within a certain period. The objective should be a reasonable reduction of, say, 50 to 60% in the birth rate for the whole world, so that balance between natural resources and man might not be jeopardized.

Cole and Hoover, both distinguished economists of the U. S. A., in their report to the World Bank on Indian conditions as regards future improvement resulting from newly constructed developmental projects, were of opinion that a 50% reduction in birth rate within 25 years might double the per capita income in India and might even treble it in 30 years time.

So long as reasonable contraceptive measures, suited to the social and economic conditions of the place and its people, are recommended, treatment for sterility and marriage counselling may well be included within the programme of action. Then the family planning movement will probably serve an honourable purpose, conducing to the happiness of society and its members. Ligation, abortion, vasectomy and similar measures for the prevention of birth of a child, however tempting these might be in the beginning, ultimately may bring about disaster in the family through a disturbance of the family and social

equilibrium. It is also the supreme height of anomaly to admit methods designed to bring about permanent sterility in the family planning movement.

REFERENCES

1. LANE-ROBERTS, C. ET AL.
   1953 — Sterility & Impaired Fertility. 2nd Ed. Hamish Hamilton. London.
2. HADLEY, JACKSON M. ET AL
   1953 — Problem of Fertility in General Practice. Hamish Hamilton. London.
3. SAUVY, ALFRED
   1953 — Diogenes. 1953.
4. VOGT, WILLIAM
   1949 — Road to Survival. Victor Gollancz. London.
5. COOK, R. C.
   1951 — The Modern Dilemma. Victor Gollancz. London.
6. SANYAL, S. N.
   1957a — Man in India. Vol. 37, No. 4
   1957b — Man in India. Vol. 37, No. 3

TRIBAL LANGUAGE AND EDUCATION

NARENDRA KUMAR DAS GUPTA

(*Received on 31 December 1958*)

DURING the third Five Year Plan more emphasis will be laid upon the introduction of compulsory education for all children between the ages of 6 and 14. The Adibasis form about 5.3 per cent of the total Indian population ; and educationally they are the most backward section in India, their percentage of literacy being only 2. Moreover, they speak numerous languages, most of which have no script of their own. Evidently the problem of the language to be used as the medium of instruction becomes very important.

For the study and analysis of this problem, let us take a specific case, namely, the Santal population living in West Bengal. It is 977,401 according to the census of 1951, while the total number of tribal population including the Santals is 1,542,663. The Santals, therefore, from the largest tribal group forming 62.37 per cent of the total tribal population of the State. The vast majority of them are bilingual. Besides their mother tongue, Santals can understand and speak Bengali.

There are 370 primary schools and 77 secondary schools with 40 or more tribal students in West Bengal.[1] Recently, I sent a questionnaire to headmasters of 100 such schools (50 primary and 50 secondary), situated in different districts of West Bengal, with a view to collecting educational data about Santal pupils. Out of one hundred copies of the questionnaire sent, I have received back sixty copies from the headmasters of the respective schools. Of these sixty schools, 34 schools are basic primary, 24 high or higher secondary,

---

Mr. Narendra Kumar Das Gupta is Lecturer in Education in the Visva-Bharati University, West Bengal. He has personally carried out some investigation about bilingualism among Santal adults and children in the neighbourhood of Santiniketan.

[1] From the reply to questionnaire received from Sri B. Majumdar, Minister-in-charge, Tribal Welfare Department, Government of West Bengal.

1 middle and 1 senior basic. Among these there are (*a*) six schools having cent percent Santal pupils, (*b*) seven schools, Santal pupils between 99-90%, (*c*) seven schools, between 89-75% (*d*) ten schools, between 74-50% and (*e*) thirty schools where the Santal pupils number below 50%.

Again, of these 60 schools there are (*a*) six schools where all the teachers are Santals, (*b*) two schools having ⅔ Santal teachers, (*c*) two schools, ½ Santal teachers, (*d*) one school, ⅓ Santal teachers, (*e*) one school, ¼ Santal teachers, (*f*) three schools, one Santal teacher each, and the rest of the 45 schools have no Santal teachers at all.

In the said questionnaire there are several questions, the answer of which may throw some light on this problem. Hence I am giving here the abstract of the answers received in regard to those questions. Regarding medium of instruction of the Santal children there were four questions :—

(1) What language do you use as the medium of instruction in teaching Santal children ? (2) If it is the regional language, is there any difficulty in the case of Santal children ? (3) Do you think that most of the Santal children are bilingual ? (4) What, in your opinion, should be the medium of instruction at the primary level, Santali or the regional language ?

In reply to query Number (1) the headmaster of only one primary school (Santoshpora Santal Free Primary School, Rampurhat, Birbhum) states that Santali language is used as the medium of instruction for Santali children. In seven schools (primary) Santali is used in one or two of the lowest classes, and Bengali is used in other classes as the medium of instruction, and in the rest the regional language, Bengali, is used as the medium of instruction. Against query Number (2), the headmasters of only five schools have stated that there is difficulty in teaching Santal pupils through the medium of Bengali, those of five other schools state that there is only a little difficulty in tackling the Santali children belonging to infant classes, that is to say, those that are beginners, whereas those of the other 50 schools have categorically stated that there is practically no difficulty in teaching them through the medium of Bengali.

Against query Number (3), the reply received from six schools (all primary) was that Santali children are not bilingual, that of one school is that, except the Santali children belonging to the infant class, all are bilingual, and the reply from the rest of the 53 schools is that the Santali children are bilingual.

In reply to query Number (4), the headmasters of only two schools (primary) have stated that Santali should be the medium of instruction for Santali children. The headmasters of eight schools (primary) have written that except in the lowest one or two classes (where Santali should be the medium of instruction), Bengali should be the medium of instruction, and the headmasters of three primary schools have suggested that both the languages, Santali and Bengali, may be used as media of instruction, whereas headmasters of the remaining 47 schools have definitely suggested that the regional language, Bengali, should be the medium of instruction for Santali children.

One of the queries regarding curriculum was, whether Santali is one of the language subjects in the school syllabus. To this only three headmasters have replied that Santali is taught as one of the languages, but not as an examination subject.

The above, in short, is the statement of the data collected and received ; and if we analyse the data we may say that, practically, most of the Santali children are bilingual, and those who are not (children of tender ages) at least tend to be so. So far as the present position of the educational structure of West Bengal is concerned, it is probably not possible to introduce Santali as the medium of instruction for their children, and it is even very difficult to include their mother tongue (Santali) in the school syllabus. In the light of the data, the writer thinks that with a view to giving better facilities and scope of entering into the sphere of different branches of knowledge and for promoting rapid educational progress of the tribal people, which the country needs, their children should preferably be taught through the medium of the regional language, Bengali, instead of waiting for an

uncertain and long period till the tribal language is sufficiently developed.

There may be another support for accepting Bengali as the medium of instruction for Santal children in West Bengal. In my recent study of Santali Dictionary by P. O. Bodding, I have observed a large number of Santali words which are very similar to or exactly the same as the equivalent Bengali words. These words might have been taken from the Bengali language. As for instance, I have noted 203 Santali words in one group only, namely, the group of words beginning with the letter 'B' which are found in use in Bengali too. If these words, common to both the languages, Santali and Bengali, are picked up and utilized in writing the primers for Santali children, there will be then much less difficulty than is now apprehended.

The present issue before the country is, whether the Santal children will have their education through the medium of their mother tongue or Bengali. The problem appears to be very simple, and most educationists would probably express the opinion that their mother tongue must be used as the medium of instruction. But a little thought would reveal that the issue is not as simple as it appears to be. For in case the Santali language is introduced as the medium of instruction, the difficulties would be tremendous. To mention a few: it has no script of its own, want of proper text-books in Santali language even at the primary level, dearth of teachers who can teach through the Santali language. The need of education for tribal children is immediate and cannot brook any delay. But this cannot be done in the present set up if Santali is taken as the medium of instruction. Though Santali has a rich vocabulary and rich folklore and is one of the richest tribal languages, it has still to be considered undeveloped and very poor in comparison with Bengali.

If it is agreed that Bengali should be the medium of instruction for Santal children, then, it is extremely desirable that it should be taken up as early as possible, from the very beginning of the primary section.

SOME PRACTICES AND USAGES AMONG THE FISHERMEN OF PANIHATI-SUKHCHAR (24-PARGANAS)

JATINDRA MOHAN DATTA

(*Received on 6 June 1958*)

THE writer's home was on the left bank of the Bhagirathi (the Hooghly of European cartographers) at Panihati, Thana Khardaha, Dist. 24-Parganas, some ten miles north of Calcutta. Sukhchar is to the immediate north of Panihati. He had thus plenty of opportunity of observation.

2. The fishermen belonged to the Tiyar and Mala castes. The Tiyars mostly lived at Sukhchar and the Malas at Panihati. Their main occupation was catching fish by plying boats with nets in the river; and sometimes by spreading wide nets (b i n - j a l) in the bed of the river. In the months of April and May, mango-fish (t a p s i a) was plentiful, and in the months of July to October h i l s a was abundant. The supply varied with the tides or phases of the moon, reaching maxima during the two, three or four days following new moon and full moon. There was seldom any glut of fishes captured, and no day passed without some fish being caught by every boat plying. The catch of h i l s a was more than plentiful, if there was fine drizzling rain called i l s a g u r u n i , when the ebb-tide began.

3. Mango-fish in shoals followed certain tracks. These tracks sometimes were close to the left bank and sometimes to the right bank. Tracks of hilsa were not so definite. Fishermen whose homes were on the left bank confined their catch to the left half of the river, and similarly those on the other bank to the right half. This was the unwritten rule or custom though the river was not divided by any buoys or other marks. Sometimes there were disputes

---

Mr. Jatindra Mohan Datta, Fellow of the Royal Statistical Society, is a well-known statistician and demographer. He is also a keen student of the socio-economic history of modern Bengal. Mr. Datta is a practising lawyer.

between fishermen of the two banks on the ground that they plied their boats systematically in the other half.

About 1905, there was a serious dispute between the fishermen of the two banks; Baidyanath Jelia's head was broken by assaulting him with an oar or b a i t h a. Fearing police action they approached my father to settle the dispute. He settled the dispute with the help of fishermen assessors, by fixing the middle of the river to be the middle of the then deepest current, which passed along the vertex of the equilateral triangle, whose bases are the two ghats on the opposite bank. This decision was honoured in practice for at least one generation.

4. They sold fishes by settling the price with individual purchasers at so much per score (1 score = 21 fishes) or so much per hundred (1 hundred = 110 fishes) for mango-fish; and at so much per fish or per pair of hilsa. Usually they were sold per pair. To the fisherwomen, who hawked fishes from door to door, or sold them at stalls in the local bazaar they usually supplied them at the ruling price of the day, which was the average of prices for medium-sized fishes in the early morning at the Panihati bazaar. The price in the morning, especially of hilsa, was some 15 to 20 per cent less than that in the afternoon or early evening; for the fishes sold in the bazaar in the early morning represented the previous night's catch and was somewhat stale.

5. The price, rather the rate of price, varied with the size, generally the length or height of fish. It was generally supposed that the bigger the fish, the more tasteful it was.

In the case of mango-fish, the rise in price with the size was very rapid. An illustrative table is given below; lengths are age-approximations.

	Size	*Price, about*
Small	upto 5″	1 pice each
Medium	5″—6″	2 ,, ,,
Fair	6″—7″	1 anna ,,
Big	over 7″	2 annas ,,

Those with roes fetched higher prices. These were the normal price about 1930.

The price curve is steeper than either the size curve, or the weight curve which is taken to be the cube of sizes.

Size	*Weight*	*Size*	*Comparative weight*	*Price*
4·5″	91	100	100	100
5·5″	166	123	182	200
6·5″	275	144	302	400
7″	343	180	377	800

Since the famine of 1943, especially since the advent of East Pakistan fisherman, they are now sold by weight.

In the case of hilsa, although fishes were sized according to length or height, each size was said to weigh so much, though none of them were ever actually weighed. They were further classified as those with roe and those without roe. Another classification was to distinguish those which were p e t o or flat-bellied from those which were not so. Peto hilsa generally fetched higher prices, say 2 annas in the rupee.

Hilsa may be classified thus :—

Size	*Approximate weight by eye-estimation*	*Rate of price*
Very small	Below 0.75 seers	1 unit
Small	0.75—1.00 ,,	2 ,,
Medium	1.00—1.75 ,,	4 ,,
Big	over 1.75 ,,	6 ,,

The bigger the fish the higher the price, as the bigger fishes are said to taste better and are more oily.

Very small fishes were sometimes sold by weight. Since the famine of 1943 they are now usually sold by weight.

6. We now record some customs or usages among these fishermen.

(*a*) If you hail a fisherman plying his boat for the catch or returning after a catch, and ask माछ् आछे ? 'Have you got fish ?', he will not answer your query. But if you ask him आछे किछु ? 'Have you got anything ?', he will answer, 'Yes' or 'No', as the case may be ; or if at a great distance from

the bank, raise up his right arm indicating that he has some, or waive his arm indicating that he has none.

(*b*) If you ask him 'How many ?', he will not answer. Ask him 'How many seers ?', his answer will be 3, 4 or 5, meaning so many fishes whatever their weight actually may be.

The writer made enquires for the reason of these customs. It is the belief among these fishermen that luck will desert them if they answer improper questions, and they will not get any more catches. Of course, it is pure superstition.

(*c*) Fishermen in boats will never come down to land to sell their catches to individual purchasers. A purchaser may board the vessel and take away the fish or fishes purchased. They will, however come on land to hand over their catches to fisherwomen.

The origin of the practice seems to be due to the belief that catching fish is more honourable than selling fish on land. It is however not degrading for fisherwomen to hawk fishes or to sell them in the bazaar. Perhaps it is a case of division of labour between men and women.

BOOK REVIEWS

Caste and the Economic Frontier: A Village in Highland Orissa. *By F. G. Bailey. 1957. Pp. xvi + 292 + charts, maps, tables and plates. Manchester University Press. Manchester. 35 shillings.*

The author who is Lecturer in Asian Anthropology in the School of Oriental and African Studies, University of London, presents here a carefully executed analysis of the socio-economic structure of a village in a comparatively isolated portion of Orissa. In this study, he has tried to measure wealth, not so much in terms of money, as in terms of paddy or rice which is the chief crop of this country. The author confesses that his estimates are not of great accuracy; but considering the fact that detailed accounts are not maintained by farmers, and that many services traditionally obtained from kin are not capable of conversion into cash, the estimates prepared by him as a basis of comparison are indeed of a very satisfactory nature.

Dr. Bailey then proceeds to show how the economic relationship of the village has gradually extended through the development of trade, and also as a consequence of changing governmental policies. These have had important effects upon the existing social structure of the village, either by way of weakening some parts of it, or in giving rise to the development of new relationships between existing groups.

There has been a desire among some groups to raise themselves in status within the existing framework of caste; while others have taken recourse to steps which have been responsible for weakening local authority. The latter have indirectly helped in the intrusion into the sheltered climate of the village of forces of an all-India character. Dr. Bailey has exercised considerable discrimination in assessing the influence of various forces involved in the change. Incidentally, he has reached the conclusion that all is not class-oriented. There is too much of individual variation to yield to such a simplified formulation. Economic affiliations may and do sometimes cut across either class or caste stratification.

Dr. Bailey has judiciously tried to restrict himself to the past of the village to which his observations were generally confined. Caste has however a history of its own, and some of the phenomena in the village become understandable only in their all-India context. Naturally they have not come up very much to the surface in the present study, nor was it necessary that they should.

The book presents an excellent cross-section of the interrelation of economic and social forces in one corner of India. When more studies of the same kind carried out with diligence and sensitiveness are available from other parts of India, then perhaps India will be able to do justice to the vast anthropological material which lies almost unused in the land.

N. K. Bose

The Tharus : A Study in Culture Dynamics. *By S. K. Srivastava. 1958. Pp. xxi + 343. Agra University Press. Agra. Rs. 16.50.*

Dr. S. K. Srivastava of the Institute of Social Sciences, Agra, has diligently collected detailed ethnographic information on the Tharus, who are a semi-hinduized tribe living in the foot-hills of the northern mountains. He has described their economic life, social organization, ritual practices, religious beliefs etc. Their oral literature has also been, more or less, briefly illustrated. The author has then tried to reach certain generalizations on the basis of his observations, and then suggested lines of future social work among them, so that they may not be cut off completely from their cultural moorings and yet receive the benefit of contact with technologically more advanced communities.

It would be good if other tribes and castes in the great province of Uttar Pradesh could thus be described by competent observers.

N. K. Bose

Prehistoric Men. *By Robert J. Braidwood. 1957. Third edition. Pp. 187, including bibliography and index, illustrations 33, charts 5, maps 3. Chicago Natural History Museum, Popular Series, Anthropology Number 37.*

The book begins with a description of what prehistory is, its relation to other disciplines, its methods, the environment and types of prehistoric men. The prehistoric material cultures of Palaeolithic, Mesolithic and Neolithic periods have been then described

in a popular way with the help of charts and figures. The distribution of cultures has been shown in maps. A note on the change of economic life from gathering to production has also been presented.

The life of the Neolithic food-producing societies of Iraq and Egypt have been briefly described. The concluding chapter includes a note on the Iron Age.

The book is attractive with its clear printing, beautiful illustrations and cover. It is excellent for beginners in prehistory.

B. Bandyopadhyay

Myths of the Munkan. *By Ursula McConnel. 1957. Pp. 173, 2 maps, 6 plates, 22 drawings. Melbourne University Press, Australia. 35s net.*

The presest work is based on the author's field studies in Cape York Peninsula, North Queensland, Australia.

In the preface and introductory chapter, the author describes the area of her field and field experiences, the way of life of the primitives, their food habits, domestic animals and crafts, decorative art, topography, funeral rites and the fauna and flora of the area covered by her.

The myths or the mirror of life, as designated by the author, are thirtysix in number. These interesting stories give a picture of the economic, technical and ritualistic aspects of Munkan life. In conclusion the various motifs contributing to the composition of the myths are summed up under the following heads : environment, industries, art and skills, kinship, a ritualistic approach to the problems of life, social, legal and religious controls. The book will be of interest to social anthropologists as well as to students of folk lore.

B. Bandyopadhyay

Musical Instruments. *1958. Pp. 109, including bibliography, 16 plates, 6 distribution maps. Horniman Museum, London Country Council. 3 s. 6 d.*

The Horniman Museum possesses a representative collection of musical instruments from all parts of the world. All these musical and sound-producing instruments have been divided into four major classes : idiophones, membranophones, aerophones

(wind) and cordophone (string). These major groups include various types. The maps show the distribution of different types of instruments.

The small book will be of great interest to students of ethnomusicology and cultural anthropology. B. Bandyopadhyay

Ao Naga Customary Laws. *By Tajenyuba Ao. 1957. Pp 101. Tarepkaba Ao, Govt. H. E. School, Mokokchung. Rs. 2.50.*

According to the author the term Naga comes from the Kachari word 'Nanggra' which means a warrior. Those who are collectively known as Nagas were never known by such a common name among themselves.

The author himself belongs to the Ao tribe and in the present pamphlet he describes briefly their village organization, customary laws, social systems, etc. He has been able to present the inner meaning of a few customs with an intimate knowledge which is not generally available to outsiders. B. Bandyopadhyay

Some Cultural and Linguistic Aspects of the Garos. *By B. N. Choudhury. 1958. Pp. 84, 10 plates. Lawyer's Book Stall, Gauhati, Assam. Rs. 3.*

The Garos of the Garo Hills District form a division of the Bodo race of Assam. But they trace their ancestral home to Tibet. The author describes Garo material culture, family and clan structure and inheritance very briefly. He has also discussed Garo language in some detail. It is a useful pamphlet, coming as it does from one who is not a professional anthropologist.

B. Bandyopadhyay

An Introduction to Social Anthropology. *By Ralph Piddington, Vol. II. Pp. 443-813. Oliver and Boyd, Edinburgh and London. 30 s. net.*

This long-awaited second volume by Professor Piddington fulfills a crying need for a text-book for students of advanced social anthropology in our universities. While the first volume of this work dealt with some of the institutions of primitive society, this one treats the vital relationship between man and his environment, material and social culture, methodology of field work, culture and personality, culture contact and problems of culture change and last, but not least, the study of complex societies.

In the short space at the disposal of the author, he initiates the reader into the intricacies and complexities of the topics mentioned .above. In a book of this kind, selection of topics is a veritable problem. In this task the author has succeeded well. From the large and unwieldy mass of material which has been produced in recent years on the subjects mentioned above, Professor Piddington wisely brings out the essential arguments and then gathers together the dispersed strands of thought into a fine end. The select bibliography at the end of each chapter facilitates the task of the inquisitive reader whose interest has been roused by the lines preceding.

Professor Piddington makes a distinction between anthropological theory and ethno-philosophy. According to him a body of theory whose conceptualizations cannot be translated into operational terms cannot be termed scientific and fall into the range of ethno-philosophy. Much of the high-flown theory which works at certain levels of abstraction has therefore not been dealt with in this book. In the Indian field itself we come across certain terms newly devised which serve as conceptual tools quite well but fail when we use them for analysing field data. The author stresses the need of such theory which is securely grounded in field research.

After giving an exposition of the body of theory connected with a particular subject, the author illustrates his point by giving relevant extracts from standard monographs. This helps the reader to grasp the subject matter better. An altogether sensible, manageable and easy-reading book, it will be found useful by student and general reader alike.

Sachchidananda

Primitive Man As Philosopher. *By Paul Radin. 1957. Pp. x+466, including appendix and index. Dorn Publications Inc., New York, $ 2.00.*

This significant work of Dr. Radin is the second revised edition of the older text. Everything remains as in the original; except an introductory chapter on methods of approach in the study of aboriginal philosophies and an essay on new religious-philosophical formulations attempted by an American Indian which has been duly acknowledged. These are important and welcome additions.

K. N. Sahay

Studies in Indian Literary History, Vol. III. *1956. Pp. 254. Published by P. K. Gode Collected Works Publication Committee. Poona-4.*

This volume is a valuable work written by P. K. Gode in continuation of Volumes I and II of such studies published by Jinavijayaji Muni in the Jain Series in the Bharatiya Vidya Bhavan, Bombay. Our sincere thanks are due to the editor of this volume, Dr. P. K. Gode, who has rendered valuable service in the field of Indology. He has published till 1956 over 445 research papers and several books dealing with Indian literary and cultural history in several research journals.

The book under review contains 28 articles written on different topics of Indian literature and culture. The editor has brought to light several rare and ancient manuscripts in Sanskrit about which very little was known. He has handled manuscripts pertaining to almost all branches of Sanskritic literature and has dealt with them in a scholarly manner. Out of 28 articles twelve deal with rare manuscripts, five with writers, and eleven with general themes of Indian literature.

Sri Gode in his first learned article has thrown light on the use of perfumes in ancient India by quoting and explaining extracts from the manuscript *Gandhasara* of Gangadhara. He discusses not only the various uses of cosmetics but also tells us about the method of preparation of the constituents.

However, there is one point of difference of opinion. It appears that Dr. Gode agrees (in page 8-9) with the view expressed in an article on cosmetics in the *Encyclopaedia Britannica* that cosmetics and perfumes had their origin in Egypt about 3500 B. C. But there are hymns in Rigveda and Atharvaveda which indicate the origin and prevalence of such cosmetics in India much earlier.

D. P. Pandey

An Introduction to the Study of Indian History. *By D. D. Kosambi. Pp. 384. Popular Book Depot. Bombay. Rs. 18.75*

Mr. Kosambi has made a departure from the method generally followed by writers on Indian history who concentrate their attention on recording the achievement, success and failure of different grand monarchs, while society is shown in reflected light. The history of the people and their material culture have

always received secondary consideration. Mr. Kosambi defines history 'as the presentation, in chronological order, of successive developments in the means and relation of production.' The author declares explicitly that the theory upon which he has based his work is Marxist and that he believes every historian has some theory, either tacit or explicit. It is no good arguing, as Prof V. G. Childe has observed, that history should be unbiased and the majority of modern historians of eminence no longer share the philosophy of Ranke, 'who laid down the ideal of pure colourless narrative.' To the present author the important question is not 'who was king, nor whether the given region had a king, but whether its people used a plough, light or heavy, at the time.' The attempt has been made therefore to describe the stages of historical development and social changes in India on the basis of modes of production and their concomitant relation with different classes and castes. But even though the theoretical background of the book is Marxist, it has not been adopted blindly : 'The adoption of Marx's thesis does not mean blind repetition of all his conclusions (and even less, those of the party-line Marxist) at all times.' Disgreement with the basic theory and many of his conclusions is sure to arise from various quarters, nevertheless it would be sheer dogmatism to dismiss the whole idea simply because the work is Marxist. The author is a well-known scholar. He has chosen the method because he has found all other sources of reconstruction as highly controversial and inadequate in view of the fact that most of them are indirect and conjectural. The book is supplied with a long list of abbreviations and bibliography, chronological outlines, 64 plates arranged methodically to throw light on different aspects of social life. It is undoubtedly a novel attempt by an expert in so far as Indian history is concerned and hence destined to provoke keen intellectual discussion.

C. L. Chakrabortty

Early History of North India. *By Sudhakar Chattopadhaya. Pp. 317. Calcutta Progressive Publishers. Rs. 16.00.*

Prof. Chattopadhaya has dealt with every detail of the history of North India from 200 B. C. to A. D. 650. Not only have the important periods of the history received attention, but an equal amount of pain has been taken to unravel the mystery of the

comparatively obscure periods. The book is copiously supplied with facts and data. Naturally he has come into conflict with the views of many eminent historians like Rapson, Bhandarkar, Jayaswal and others. This is, of course, inevitable in the case of ancient history which is dependent for its reconstruction on numismatic evidence, archaeological findings, epigraphic writings, ancient chronicles etc., and there is no end of controversy over their decipherment. Again with a new discovery, sometimes whole beliefs and conjectures stand outmoded. Hence there are always new facts and new interpretations. The present author has carried out his task with consummate ability.

C. L. Chakrabortty

Early History and Culture of Kashmir. *By Dr. Sunil Chandra Roy. Pp. 241. Rs. 20.00.*

It is an exhaustive and scholarly history of Kashmir. Sardar K. M. Panikkar calls it an 'outstanding piece of research on a very important region of India.' Dr. Sunil Roy, instead of taking the conventional way of writing the history of the country by simply narrating the activities of its rulers, has rather portrayed a total picture of Kashmir's political evolution and social, religious and cultural development. Even though Kashmir has suddenly leaped into prominence on account of political reasons, its early history had always received scant treatment from scholars notwithstanding her immense contribution to the literary and religious heritage of India. The work is undoubtedly well merited when one considers the amount of pain and insight that Dr. Roy has shown in piecing together scattered facts collected from various remote sources. It is handsomely bound, includes a map of Kashmir, a list of abbreviations, long bibliography and a good number of plates representing various aspects of the social life of Kashmir.

C. L. Chakrabortty

A Short History of India. *By W. H. Moreland and Sir Atul Chandra Chatterjea. Fourth Edition. Pp. 594. Longmans, Green and Co.*

The book was first published in 1936. In the fourth edition it has been made up-to-date by the inclusion of the story of partition and the transfer of power. It is not a work of original

research, but attempts to bring together all available materials and present them lucidly to ordinary readers. The authors themselves write : 'We have tried to tell the story of India as it appears in the light of the most recent research, but within a moderate compass, and in a manner which we hope will retain the interest of ordinary readers.' And this is not an easy task. Viewed from this angle the present work is very ably executed.

C. L. Chakrabortty

Jainism In Bihar. *By P. C. Roy Chowdhury. Pp. 110. Published by Indu Roy Chowdhury, 7 Baily Road, Patna. Rs 5.00.*

Sri Roy Chowdhury has creditably shown by marshalling a large mass of facts the extent of the influence of Jainism in different parts of Bihar in the past. Ancient India was replete with innumerable social and religious movements directed to end the social rigidity, political and economic inequities fostered by Brahmans. Jainism was one of them which arose in the sixth century B. C. as a protest and spread considerable influence throughout North India. Sri Roy Chowdhury has concentrated his investigation in respect of Bihar and has rendered a definite service by bringing into light many hitherto unknown facts. Besides a glossary and bibliography the book also contains sixteen beautiful illustrations of temples and images.

C. L. Chakrabortty

Hazaribagh Old Records (1761-1878). *By P. C. Roy Chowdhury. Pp. 197. Gazetteers Revision Office, Revenue Department, Bihar, Patna. Rs. 3.00.*

The volume begins with an historical sketch of Hazaribagh, followed by various documents and official records throwing light on administrative, social, economic, judicial and various other aspects of life in the country. It also contains some interesting records on the Santal and Kol rebellions. In the appendix Sri Roy Chowdhury has an important story to tell with regard to certain inexactitudes purposely created by British chronicles about the 'Sepoy Mutiny' in Chotanagpur.

C. L. Chakrabortty

Black Pagoda : *By Robert Ebersole. Pp. 105. 1957. University of Florida Press, Gainesville.*

This sumptuously illustrated book forms an introduction to the sacred architecture of Orissa. Although written in a semi-popular style, it contains much that is of interest to one who wishes to understand Hindu religion and its artistic traditions.

N. K. Bose

Ramayana. *By Shudha Mazumdar. 1958. Pp. xx+540. Orient Longmans. Calcutta.*

A beautiful story, beautifully told. It has often been said that one who wishes to understand India must read the Ramayana, Mahabharata and the Bhagabata. At one time, Sister Nivedita tried to retell the tales of Hinduism for a western audience. That task remained unfinished, although ponderous and scholarly translations of our epics have been published afterwards. We do hope, Mrs. Mazumdar will continue her labours, and present the story contained in our epics as successfully as in the present instance.

Whispers from Eternity. *By Paramhansa Yogananda. Pp. xxii+266. 1958. Self-Realization Fellowship. Los Angeles. Three dollars.*

Poetic thoughts from one steeped in meditation and in communion with the Absolute. We recommend the book to all seekers of a truly religious life.

Spanish for the First Year. *By Paul Rogers. 1957. Pp. x+431. The Macmillan Company, New York.*

An excellent book for learning Spanish. It consists of twenty-nine lessons in grammar and exercises, along with a series of graded dictation exercises to provide aural drill from the beginning of the study. The book is provided with numerous illustrations depicting not only ancient historical monuments and modern pieces of architecture, but also numerous modern paintings which make it a treasure-house of Spanish culture as a whole. It is a happy idea to familiarize the student with these products of Spanish civilization while he is engaged in the study of the language.

Yonder One World : A Study of Asia and the West. *By Frank Moraes. 1958. Pp. 209. The Macmillan Company, New York. 1.50 dollars.*

The author is a well-known journalist in India who has travelled extensively through nearly the whole of Asia. It is his belief that Asia and the West can mutually appreciate one another by an understanding of personalities and of principles. In the present book, he has tried to present what he believes to be the Asian point of view on questions like communism, State planning and free enterprise, the principle of co-existence, etc.

It is our hope that mutual understanding between Asia and the world will be promoted by honest and frank observations or expressions of opinion of the present kind.

Burma in the Family of Nations. *By Maung Maung. Pp. xi+236. 1956. Djanbatan Ltd. Amsterdam.*

This excellent and authoritative book traces the evolution of Burma as a free nation in the modern world. Her constitution and legal system are also adequately described, as well as her present position in the international sphere.

The book can be warmly welcomed as an outstanding contribution to recent history,

Statement about ownership and other particulars about the newspaper, quarterly journal, *Man in India*, to be published in the first issue every year after the last day of February.

FORM IV

(See Rule 8)

1. Place of Publication—Ranchi.
2. Periodicity of its publication—Quarterly.
3. Printer's Name—Ajit Kumar Bose.
   Nationality—Indian.
   Address—27-3B Hari Ghose Street, Calcutta-6.
4. Publisher's Name—Nirmal Chandra Sarkar.
   Nationality—Indian.
   Address—18 Church Road, Ranchi.
5. Editor's Name—Nirmal Kumar Bose.
   Nationality—Indian.
   Address—37A Bosepara Lane, Calcutta-3.
6. Name and address of individuals who own the newspaper and partners or shareholders holding more than one percent of the total capital. — Life Estate of Srimati Sudhangsu Nagini Roy, widow of the late Sarat Chandra Roy.

I, N. C. Sarkar, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Signature of

Dated, 2nd February, 1959. Publisher—Nirmal Ch. Sarkar

NOTICE

Subscribers whose dues are in arrears are requested kindly to remit their arrears and current subscription to the Manager, Man in India, 18 Church Road, Ranchi, Bihar, India, so that continuity of service may be maintained. Publications meant for exchange must be sent to the office of the journal at Ranchi.